Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 26.04.95 Edition : ISO 4113 Test oil

Combination No. : 0 400 074 896

Injection pump

Pump designation : PES4M55C32ORS110 EP type number : 0 410 054 956

Governor

Governer design. : RSF375/2200M21 Governer no. : 0 420 021 148

Cust. part No.

Customer-spec. information Customer : MB-NFZ

: 0M616 2.4L ADA Motor

Power KW : 55.0

TEST BENCH REQUIREMENTS

Test oil inlet

temp. °C Tolerance °C 2.0

Overflow valve : 1 417 413 012

Inlet press. bar : 1.0

Test nozzle holde

: 1 688 901 111 assembly

Opening pressure

148.5 bar Tolerance bar 1.5

: 1 680 750 014 Test lines

Outside diameter : 6.0

x inside diameter: 2.0 600 x length mm

REMARKS

(A) INJECTION PUMP SETTING VALUES Set equal delivery quant. per values _____ BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Firing order : 1-3-4-2

Phasing : 0-90-180-270

BASIC SETTING

Rated speed rpm 1000

Rack travel in mm : 12.65 Tolerance mm : +- 0.05

Del. quantity cm3/1000 strokes : 37.5

Tolerance cm3/1000 strokes : +- 0.5

Check tolerance : +cm3/1000s. 1.5

Spreed Tolerance

Check tolerance

cm3/1000 strokes : 2.5

3.0

cm3/1000s.

Rated speed rpm : 375

Rack travel in mm : 6.20 Tolerance mm : + 0.10

Del. quantity

cm3/1000 strokes : 7.5

Tolerance

cm3/1000 strokes : +-0.5

Spreed Tolerance

cm3/1000 strokes : 1.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR	SET IDLE AUXILIARY SPRING
IDLE STAGE	Rated speed rpm : 450 rack travel mm : 5.20 Tolerance mm : + 0.10
Rack travel in mm: 6.00 Tolerance mm: + 0.10	rack travel mm : 2.00 Rated speed rpm : 780 Tolerance 1/min : +- 50
FULL LOAD DELIVERY AT FULL LOAD STOP	Load pick-up
Rated speed rpm : 1000	Rated speed rpm : 250
Ref. pressure ALDA / ADA hPa : 1100 Del. quantity	CRT mm min. : > 10.00
cm3/1000 strokes : 37.5	Rated speed rpm : 1000
cm3/1000 strokes : + 0.5 Check tolerance	CRT mm max. : 1.45
cm3/1000s. : + 1.5 Spreed Tolerance	rack travel mm : 6.20 Rated speed rpm : 375
cm3/1000 strokes : 2.5 Check tolerance	
cm3/1000s. : 3.0	TORQUE CONTROL
RATED SPEED	Rated speed rpm : 1000 rack travel mm : 12.65 Tolerance mm : +- 0.05
control lever position degree : 50.0	Rated speed rpm : 1700 rack travel mm : 12.30 Tolerance mm : + 0.10
rack travel mm : 8.40 Rated speed rpm : 2350 rack travel mm : 0.50	Rated speed rpm : 2150 rack travel mm : 11.90 Tolerance mm : + 0.10
Tolerance mm : + 0.50 + Rated speed rpm : 2950 +	
	ADJUSTMENT TEST ADA/ALDA
SET IDLE CONTROL LEVER POSITION	SETTING
Rated speed rpm : 1000	Rated speed rpm : 1000 Ref. pressure
CRT mm max. : 1.45	ALDA / ADA hPa : 950 rack travel mm : -0.10
LOW IDLE	Tolerance mm : + 0.10 MEASUREMENT
control lever position degree : 10.0 tolerance degree : + 2.0	Rated speed rpm : 1000 Ref. pressure ALDA / ADA hPa : 900 rack travel mm : -0.60
Setting point w/out bumper spring Rated speed rpm : 375 rack travel mm : 6.20	Tolerance mm : +- 0.10 Rated speed rpm : 1000

Ref. pressure ALDA / ADA hPa	: 750	<u> </u>
rack travel mm Tolerance mm	: -2.00 : +- 0.20	STARTING FUEL DELIVERY
TOTAL AND		Rated speed rpm : 100 rack travel mm : 20.10 Del. quantity
FUEL DELIVERY CHA	ARACTERISTICS	cm3/1000 strokes : 52.0 Spreed
Ref. pressure ALDA / ADA hPa	: 1100	Tolerance cm3/1000 strokes : 6.0
Rated speed rpm Del. quantity cm3/1000 strokes		Check tolerance cm3/1000s. : 6.0
Tolerance cm3/1000 strokes	: +- 0.8	+
Check tolerance cm3/1000s.	: +- 1.8	LOW IDLE
Spreed Tolerance cm3/1000 strokes	: 2.5	Del. quantity cm3/1000 strokes : 8.3
Check tolerance cm3/1000s.	; 3.0	Check tolerance + cm3/1000s. : +- 1.8
Ref. pressure	: 1100	Spreed Check tolerance cm3/1000s. : 1.5
ALDA / ADA hPa Rated speed rpm Spreed		cm3/1000s. : 1.5
Del. quantity cm3/1000 strokes Tolerance	: 38.3	<u> </u>
cm3/1000 strokes	: + 1.0	Grad : > 49.00
Check tolerance cm3/1000S. Spreed	: +- 2.0	Grad : < 46.50
Tolerance cm3/1000 strokes	: 2.5	SETTING PNEUMATIC FAST IDLE (ELA)
Check tolerance cm3/1000s.	: 3.0	t control lever
		position degree : 10.0 tolerance degree : +- 2.0
HIGH IDLE		‡ <u></u>
Rated speed rpm rack travel mm Tolerance mm	: 2350 : 8.40 : +- 0.20	+ SETTING/TESTING ELECTRONIC IDLE + REGULATION (ELR) +
Del. quantity cm3/1000 strokes	: 22.0	control lever
Tolerance cm3/1000 strokes Check tolerance	: +- 2.0	+ position degree : 10.0 + tolerance degree : + 2.0
cm3/1000s. Spreed Tolerance	: +- 3.0	+ control lever + position degree : 50.0
cm3/1000 strokes	: 2.5	+ ADJUSTMENT
Check tolerance cm3/1000s.	: 3.0	control lever
		position degree : 50.0

TESTING PNEUMATIC SHUTOFF DEVICE

Rated speed rpm : 375

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition

: 31.05.90

Test oil

: ISO 4113

Combination No. : 0 400 836 016

Injection pump

Pump designation : PES6A85D410/3RS2415

EP type number : 0 410 886 915

Governor

Governer design. : RQV750AB1004L

Governer no. : 0 420 212 093

Cust. part No. :

Customer-spec. information

Customer : KHD

Motor

: BF6L913

Power KW

: 42.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C

Tolerance °C

2.0

Overflow valve : 1 417 413 000

Inlet press. bar : 1.5

Test nozzle holde

assembly

: 0 681 343 009

Opening pressure

173.5

bar Tolerance bar

: +- 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Firing order : 1-5-3-6-2-

: 4

Phasing

: 0-60-120-180-240

: -300

Tolerance

: + 0.50

Check

tolerance °NW : + 0.75

BASIC SETTING

Del. quantity

cm3/1000 strokes : 12.0

Tolerance

cm3/1000 strokes : +- 3.0

Check tolerance cm3/1000s.

: +-5.0

Spreed

Tolerance

cm3/1000 strokes :

2.5

4.5

Check tolerance

cm3/1000s.

(B) SETTING OF INJECTION PUMP

WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm

: 752

quide sleeve

3.33

travel mm Tolerance mm

: +- 0.25

Rated speed rpm : 530

quide sleeve

: -6.91 travel mm

Tolerance mm	: +- 0.25	†	
Rated speed rpm		Rated speed rpm rack travel mm	
guide sleeve travel mm	: 17.51	Rated speed rpm	: 780
Tolerance mm		+ Tolerance 1/min	
		+ rack travel mm	
Rated speed rpm	: 825	† , , ,	0.50
guide sleeve travel mm	: 10.00	† rack travel mm † Tolerance mm	: 0.50 : + 0.50
Tolerance mm	: +- 0.25	T loceratice tiali	. +- 0.50
TO COT CITTO THE	0.00	+ Rated speed rpm	: 740
Rated speed rpm	: 880	† rack travel mm	: 11.00
guide sleeve	: 11.50	† Batad aread are	. 701
travel mm Tolerance mm		+ Rated speed rpm + Tolerance 1/min	
TOCCI GITCC TIME	0.50	+ rack travel mm	
		- +	
GUIDE SLEEVE POS	ITION	+ rack travel mm	: 0.50
Data danced and	. 900	Tolerance mm	: + 0.50
Rated speed rpm	: 800	Rated speed rpm	: 741
		- + rack travel mm	
FULL LOAD DELIVER	RY AT FULL LOAD STOP	+	
		+ Rated speed rpm	
Rated speed rpm		+ Tolerance 1/min	
Aneroid pressure		track travel mm	: 4.00
hPa	•	T rack travel mm	: 0.50
		+ Tolerance mm	: ← 0.50
		- +	
CONTROL LEVER		+ Rated speed rpm	
control lever		rack travel mm	: 11.00
position degree	: 87.0	Rated speed rpm	: 793
tolerance degree	: + 4.0	+ Tolerance 1/min	
		+ rack travel mm	
ACCEMBLY COVERNOR	o certain	†	. 0.50
ASSEMBLY GOVERNOR	4 SELLING	+ rack travel mm + Tolerance mm	: 0.50 : +- 0.50
Rated speed rpm	: 737	10cer dine mai	0,50
rack travel mm		+	
	-	+	
Rated speed rpm	: 778	†	
Tolerance 1/min rack travel mm	: ← 5 : 4.00	START CUT-OUT	
I GUN LI GVEL IIIII	. 7.00	T 374K1 C01-001	
rack travel mm	: 0.50	Rated speed rpm	: > 100
Tolerance mm	: + 0.50	Rated speed rpm	: < 660
Rated speed rpm	: 798	† Charl	
Dated speed spe	: 738	+ Check + speed 1/min	: > 80
Rated speed rpm rack travel mm		T speed itmin	00
I GOV FLOVE FIRM	. 11.00		
Rated speed rpm	: 779	FUEL DELIVERY CHA	RACTERISTICS
Tolerance 1/min		†	
rack travel mm	: 4.00	+ Aneroid pressure	
rack travel mm	: 0.50	+ hPa + Rated speed rpm	750
Tolerance mm	: +- 0.50	- Mateu speed (pill	. 150
TO COT OF SCO TIME			

Del. quantity cm3/1000 strokes	:	36.0	
Tolerance cm3/1000 strokes Check tolerance	: +-	1.0	
cm3/1000S. Spreed	: +-	3.5	
Tolerance cm3/1000 strokes	:	3.0	
Check tolerance cm3/1000s.	:	5.0	
CTARTING FUEL DEL	TUEDY		

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm 20.25 : + - 0.75Tolerance mm Del. quantity cm3/1000 strokes : 130.0 Tolerance 5.0 cm3/1000 strokes Check tolerance cm3/1000s. 8.0

LOW IDLE

Del. quantity cm3/1000 strokes : 12.0 Tolerance 3.0 cm3/1000 strokes : + Check tolerance cm3/1000s. 5.0 Spreed Tolerance cm3/1000 strokes 2.5 Check tolerance cm3/1000s. 4.5

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil : 30,10,92 : ISO 4113

Combination No. : 0 400 846 549

Injection pump

Pump designation : PES6A95D41ORS2471 EP type number : 0 410 896 952

Governor

Governer design. : RQV300...1250AB1089

: -2L

Governer no.

: 0 420 212 190

Cust, part No.

Customer-spec. information

Customer

: KHD

Motor

: BF6L913C

Power KW

: 141.0

TEST BENCH REQUIREMENTS

Inlet line

: 3.1

Test oil inlet

temp. °C

Tolerance °C

: +- 2.0

Overflow valve

: 1 419 992 198

Inlet press. bar :

Test nozzle holde

assembly

: 0 681 343 009

Opening pressure

173.5

Tolerance bar

Test lines

: 1 680 750 014

Outside diameter :

6.0

x inside diameter: 2.0

x length mm :

600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Firing order

: 1-5-3-6-2-: 4

Phasing : 0-60-120-180-240

: -300

Tolerance

: + - 0.50

Check

tolerance *NW

: + 0.75

BASIC SETTING

Rated speed rpm

1250

Rack travel in mm :

11.65

Tolerance mm

: + 0.05

Del. quantity

cm3/1000 strokes :

102.0

1.0

Tolerance

cm3/1000 strokes : +-

Check tolerance

cm3/1000s.

: +-3.0

Spreed

Tolerance

cm3/1000 strokes :

3.5

Check tolerance

cm3/1000s.

6.0

Rated speed rom

300

Rack travel in mm :

7.30

Tolerance mm : +- 0.10

Del. quantity cm3/1000 strokes : 13.0 Tolerance cm3/1000 strokes : + 3.0 Check tolerance cm3/1000s. : + 5.5 Spreed Tolerance cm3/1000 strokes : 3.5 Check tolerance cm3/1000s. : 5.5	Tolerance cm3/1000 strokes : 3.5 Check tolerance cm3/1000s. : 6.0 CONTROL LEVER control lever position degree : 122.0 tolerance degree : +- 4.0
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	RATED SPEED rack travel mm : 10.60
GUIDE SLEEVE TRAVEL	Rated speed rpm : 1295 Tolerance 1/min : +- 5
Rated speed rpm : 300 guide sleeve travel mm : 1.35 Tolerance mm : + 0.05 Rated speed rpm : 1290 guide sleeve travel mm : 8.45 Tolerance mm : + 0.05	rack travel mm : 4.00 Rated speed rpm : 1360 Tolerance 1/min : + 15 rack travel mm : 0.50 Tolerance mm : + 0.50 Rated speed rpm : 1500
Rated speed rpm : 650 guide sleeve travel mm : 3.80 Tolerance mm : + 0.10 Rated speed rpm : 1200	control lever position degree : 73.0 tolerance degree : +- 4.0
guide sleeve travel mm : 7.00 Tolerance mm : + 0.10	Testing: Rated speed rpm : 300
GUIDE SLEEVE POSITION +	rack travel mm : 7.30 Tolerance mm : +- 0.10
Rated speed rpm : 1290	Rated speed rpm : 100
Rack travel in mm: 16.50 Tolerance mm: + 1.30	CRT mm min. :> 9.00
	Rated speed rpm : 418
FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1250 Aneroid pressure hPa :	TORQUE CONTROL Rated speed rpm : 1250 rack travel mm : 11.65 Tolerance mm : +- 0.05
<pre>cm3/1000 strokes : 102.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0</pre>	Rated speed rpm : 500 rack travel mm : 11.70 Tolerance mm : +- 0.10
Spreed +	Rated speed rpm : 850

rack travel mm Tolerance mm	: 11.65 : +- 0.10
START CUT-OUT	
Rated speed rpm Rated speed rpm	: > 100 : < 220
Check speed 1/min Check	: > 80
speed 1/min	: < 240
FUEL DELIVERY CHAP	RACTERISTICS
Aneroid pressure	
hPa Rated speed rpm	850
Del. quantity cm3/1000 strokes	: 97.0
Tolerance cm3/1000 strokes	: + 1.5
Check tolerance cm3/1000s.	: +- 4.0
Rack travel in mm Rated speed rpm Tolerance 1/min	: 10.60 : 1295 : + 5
STARTING FUEL DELI	IVERY
Rated speed rpm rack travel mm	: 100 : 16.00
Tolerance mm Del. quantity	: + 0.20
cm3/1000 strokes Tolerance	: 127.0
cm3/1000 strokes Check tolerance	: +- 5.0
cm3/1000s.	: ← 8.0
LOW IDLE	
Rated speed rpm rack travel mm Tolerance mm	: 300 : 7.30 : +- 0.10
Del. quantity cm3/1000 strokes	: 13.0

Tolerance cm3/1000 strokes	: +-	3.0
Check tolerance cm3/1000s.	: +-	5.5
Spreed Tol@rance		
cm3/1000 strokes	:	3.5
Check tolerance cm3/1000s.	•	5.5

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Test oil : 31.05.95

Combination No. : 0 402 746 954A

Injection pump

Pump designation : PES6P120A720RS7301

EP type number : 0 412 726 900

Governor

Governer design. : RQV300...1050PA1090K

Governer no. : 0 421 815 362

Cust. part No. : 9275449

Customer-spec. information Customer : LIEBHERR Motor : D 926 TI Power KW : 230.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C Tolerance °C

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5 Tolerance bar : +- 0.1

Overflow quantity

min. l/h : 115 Tolerance l/h : + 10.0

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

: 208.5 Tolerance bar : +- 1.5 Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.75 Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm: 10.50 Tolerance mm : \leftarrow 1.50

Firing order : 1-5-3-6-2-

: 4

: 0-60-120-180-240 Phasing

: -300

Tolerance : +- 0.30

Check

tolerance *NW : + 0.75

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm: 14.35

Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 240.0

Tolerance

cm3/1000 strokes : + 1.0

Check tolerance cm3/1000s. : +- 4.0	guide sleeve travel mm : 3.66 Tolerance mm : +- 0.25
Spreed Tolerance cm3/1000 strokes : 5.0	Rated speed rpm : 1320 guide sleeve
Check tolerance cm3/1000s. : 9.0	travel mm : 13.50 Tolerance mm : + 0.50
Rated speed rpm : 350	GUIDE SLEEVE POSITION
Rack travel in mm: 6.10 Tolerance mm: + 0.20 Del. quantity	Rated speed rpm : 1170 Rack travel in mm : 13.00
cm3/1000 strokes : 25.0	Tolerance mm : +- 1.30
cm3/1000 strokes : + 3.0 + Check tolerance +	FULL LOAD DELIVERY AT FULL LOAD STOP
cm3/1000s. : + 6.0 Spreed	Rated speed rpm : 1050
Tolerance cm3/1000 strokes : 6.0 Check tolerance	Aneroid pressure hPa : 1600 Del. quantity
cm3/1000s. : 10.0	cm3/1000 strokes : 240.0 Tolerance
(B) SETTING OF INJECTION PUMP	cm3/1000 strokes : +- 1.0 Check tolerance
WITH GOVERNOR	cm3/1000s. : + 4.0 Spreed Tolerance
GUIDE SLEEVE TRAVEL	cm3/1000 strokes : 5.0 Check tolerance
Rated speed rpm : 300 + guide sleeve	cm3/1000s. : 9.0
travel mm : 1.69 Tolerance mm : + 0.15	
Reted speed rpm : 1117	CONTROL LEVER
guide sleeve travel mm : 10.38 + Tolerance mm : +- 0.20 +	control lever position degree : 121.0 tolerance degree : +- 4.0
Rated speed rpm : 746 guide sleeve	RATED SPEED
travel mm : 6.20 Tolerance mm : + 0.25	rack travel mm : 13.35 Rated speed rpm : 1080 Tolerance 1/min : +- 5
Rated speed rpm : 353 + guide sleeve	rack travel mm : 4.00
travel mm : 2.45 + 0.25 +	Rated speed rpm : 1180 Tolerance 1/min : + 15
Rated speed rpm : 403 guide sleeve	rack travel mm : 0.50 Tolerance mm : + 0.50
Tolerance mm : 3.18 + 0.25	Rated speed rpm : 1300
Rated speed rpm : 450	LOW IDLE

control lever position degree tolerance degree Testing: Rated speed rpm rack travel mm Tolerance mm Rated speed rpm	: + 4.0 : 350 : 6.10 : + 0.10	rack trave Tolerance	mm : + 0.10 drpm : 1050 Pa : 800 L mm : 13.75 mm : + 0.05 Pa : 650 L mm : 12.95
CRT mm min.	: > 9.10	†	
Rated speed rpm	: 475	+ START CUT- + Rated spee	OUT d rpm :> 100 d rpm :< 270
TORQUE CONTROL		Check	a ipii . C Ero
Rated speed rpm rack travel mm		speed 1/mi	n :> 80
Tolerance mm	: ← 0.05	speed 1/mi	n : < 290
Rated speed rpm rack travel mm Tolerance mm	: 13.85	+	ERY CHARACTERISTICS
Rated speed rpm rack travel mm Tolerance mm		+ Aneroid property has the half of the hal	: 1600 d rpm : 800 ity
Rated speed rpm rack travel mm Tolerance mm	: 13.35	+ cm3/1000 s + Tolerance + cm3/1000 s + Check tole	
Rated speed rpm rack travel mm	: 600 : 12.85	cm3/1000s. Aneroid pro	: +- 6.0 essure
Tolerance mm		+ hPa + Rated speed + Del. quant	
Rated speed rpm rack travel mm Tolerance mm	: 12.85	+ cm3/1000 st + Tolerance	trokes : 204.0
		Check tole	
ANEROID/ALTITUDE COMPENSATOR TEST		+ cm3/1000s. + Aneroid pro	
SETTING		+ hPa + Rated speed	: – drpm : 600
Rated speed rpm Pressure hPa	: 1050 : 1400	+ Del. quant + cm3/1000 st + Tolerance	trokes: 185.0
rack travel mm Tolerance mm	: 14.35 : +- 0.05	+ cm3/1000 st + Check toler	
MEASUREMENT		+ cm3/1000s. + Spreed	: +- 4.0
Pressure hPa	: -	+ Tolerance + cm3/1000 st	trokes : 8.0

Check tolerance 12.0 cm3/1000s. BREAKAWAY 13.35 Rack travel in mm: Rated speed rpm : 1080 Tolerance 1/min STARTING FUEL DELIVERY Rated speed rpm 100 rack travel mm 12.85 2 Tolerance mm : + 0.20 Del. quantity cm3/1000 strokes 155.0 Tolerance cm3/1000 strokes : + 10.0 Check tolerance cm3/1000s. : +- 14.0 LOW IDLE Rated speed rpm 350 rack travel mm 6.10 Tolerance mm 0.20 Del. quantity cm3/1000 strokes : 25.0 Tolerance cm3/1000 strokes 3.0 Check tolerance cm3/1000s. 6.0 Spreed Tolerance cm3/1000 strokes 6.0

End of test specification sheet

10.0

Check tolerance cm3/1000s.

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition

: 12.09.95

Test oil

: ISO 4113

Combination No. : 0 400 864 088

Injection pump

Pump designation : PES4A85D410/3RS2799

EP type number : 0 410 884 944

Governor

Governer design. : RSV325...1250A2C2253

: -2L

Governer no.

: D 420 232 556

Cust. part No.

Customer-spec. information

Customer

: KHD

Motor

: BF4L913

Power KW

: 78.0

TEST BENCH REQUIREMENTS

Inlet line : 1.3

Test oil inlet

temp. °C

Tolerance *C

: +- 2.0

Overflow valve

: 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly

: 0 681 343 009

Opening pressure

bar

173.5

Tolerance bar

1.5

Test lines

i: 1 680 750 014

Outside diameter :

6.0

A15

x inside diameter: 2.0

x length mm :

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar :

Tolerance bar : + 1.0

Prestroke mm 2.50

Tolerance mm : +- 0.05

Check

tolerance mm : + 0.10

Rack travel in mm: 10.50 Tolerance mm : \leftarrow 1.50

Firing order : 1-3-4-2

Phasina : 0-90-180-270

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm: 11.75

Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes :

84.5

Tolerance

cm3/1000 strokes : \leftarrow 0.5

Check tolerance

: +- 2.5 cm3/1000s.

Spreed

Tolerance

cm3/1000 strokes :

3.0

Check tolerance

cm3/1000s.

7.0

Rated speed rpm :

325

1	rack travel mm : 10.70
Rack travel in mm: 7.70	rack travel mm : 10.70 Rated speed rpm : 1295
Tolonance mm · + 0.10	Tolerance 1/min : +- 5
Del. quantity	roterance minima.
cm3/1000 strokes : 15.0 +	rack travel mm : 4.00
Tolerance	Rated speed rpm : 1375
cm3/1000 strokes : + 2.0	Tolerance 1/min : +- 15
Check tolerance	
cm3/1000s. : + 4.0	rack travel mm : 0.85
Spreed	Tolerance mm : + 0.55
Tolerance	Rated speed rpm : 1525
cm3/1000 strokes : 4.5	
Check tolerance +	rack travel mm : 4.00
cm3/1000s. : 7.0	Rated speed rpm : 1415
+	
+	
(B) SETTING OF INJECTION PUMP	
WITH GOVERNOR +	LOW IDLE
†	
†	
	control lever
GUIDE SLEEVE POSITION +	position degree : 73.0
Patrol annual num	tolerance degree : + 4.0
Rated speed rpm : 800 +	
Pools thought in the CO FO	Setting point w/out bumper spring
Rack travel in mm: 0.50 + Tolerance mm: + 0.20 +	Dated aread arm . 725
Toterance mm : + 0.20	Rated speed rpm : 325 rack travel mm : 7.20
	rack travet mm : 7.20
governor spring pre-tension +	Testing:
click setting x : 4.50	restrig.
T	Rated speed rpm : 325
	rack travel mm : 7.70
FULL LOAD DELIVERY AT FULL LOAD STOP	Tolerance mm : + 0.10
TOLL COMP SELEVENT AT TOLL COMP OTO:	rocci di loc linis
Rated speed rpm : 1250	rack travel mm : 2.00
Aneroid pressure	Rated speed rpm : 580
hPa : 1000	Tolerance 1/min : +- 30
Del. quantity	
cm3/1000 strokes : 84.5	Rated speed rpm : 100
Tolerance +	
cm3/1000 strokes : +- 0.5 +	CRT mm min. :> 19.50
Check tolerance +	
cm3/1000s. : + 2.5	
Spreed	TORQUE CONTROL
Tolerance	- 4
cm3/1000 strokes : 3.0	Rated speed rpm : 1250_
Check tolerance +	rack travel mm : 11.75
cm3/1000s. : 7.0	Tolerance mm : + 0.05
<u> </u>	201.01.00.00
†	Rated speed rpm : 500
CONTROL LEVED	rack travel mm : 12.15
CONTROL LEVER	Tolerance mm : +- 0.05
control lever	Rated speed rpm : 800
	rack travel mm : 12.00
position degree : 102.0 + tolerance degree : +- 4.0 +	rack travel mm : 12.00 Tolerance mm : + 0.10
total drive degree . 4.0	TOTAL GIRLE GIRL
RATED SPEED	
The process of the pr	
1	

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 1000
rack travel mm : 12.15
Tolerance mm : + 0.05

MEASUREMENT

Pressure hPa : Rated speed rpm : 500
rack travel mm : 10.85
Tolerance mm : + 0.05

Rated speed rpm : 500

Pressure hPa : 230
rack travel mm : 11.50
Tolerance mm : + 0.10

Pressure hPa : 300 rack travel mm : 11.85 Tolerance mm : + 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa : 520 Rated speed rpm : 800 Del. quantity

Del. quantity cm3/1000 strokes : 81.0

Tolerance

cm3/1000 strokes : + 1.5

Check tolerance

cm3/1000s. : \leftarrow 3.5

Aneroid pressure

hPa : Rated speed rpm : 500
Del. quantity

cm3/1000 strokes :

Tolerance

59.0

cm3/1000 strokes : +- 1.5

Check tolerance

cm3/1000s. : +- 3.5

BREAKAWAY

Rack travel in mm: 10.70

Rated speed rpm : 1295
Tolerance 1/min : +- 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 17.80
Tolerance mm : + 0.20
Del. quantity
cm3/1000 strokes : 125.0
Tolerance
cm3/1000 strokes : + 7.5
Check tolerance
cm3/1000s. : + 10.0

LOW IDLE

325 Rated speed rpm rack travel mm 7.70 0.10 Tolerance mm Del. quantity cm3/1000 strokes 15.0 Tolerance cm3/1000 strokes 2.0 Check tolerance cm3/1000s. 4.0 Spreed Tolerance cm3/1000 strokes : 4.5 Check tolerance cm3/1000s. 7.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 11.09.95 : ISO 4113

Combination No. : 0 400 866 080

Injection pump

Pump designation : PES6A85D410/3RS2415

EP type number : 0 410 886 915

Governor

Governer design. : RSV325...1400A8C809L

Governer no. : 0 420 232 610

Cust. part No. : 0423 1249 KY 0150

: -17

Customer-spec. information Customer : KHD

Motor

: BF6L913

Power KW

: 118.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C

Tolerance *C

2.0

Overflow valve : 1 419 992 198

Inlet press. bar :

1.5

Test nozzle holde

assembly

: 0 681 343 009

Opening pressure

bar

173.5

Tolerance bar

: +- 1.5

Test Lines

: 1 680 750 014

Outside diameter : 6.0

A18

x inside diameter: 2.0 x length mm :

600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar :

Tolerance bar : + 1.0

1.95 Prestroke mm

: +- 0.05 Tolerance mm

Check

: +- 0.10 tolerance mm

Rack travel in mm: 10.50

Tolerance mm : +- 1.50

Firing order : 1-5-3-6-2-

: 0-60-120-180-240 Phasing

: -300

BASIC SETTING

Rated speed rpm : 1400

Rack travel in mm: 10.85 : + 0.05Tolerance mm

Del. quantity

cm3/1000 strokes :

76.5

Tolerance

cm3/1000 strokes : \leftarrow 0.5

Check tolerance

cm3/1000s.

2.5

Spreed

Tolerance

cm3/1000 strokes :

3.0

Check tolerance

cm3/1000s.

7.0

	,	
Rated speed rpm	. 325	rack travel mm : 9.80
Macca opeca (pili	1	Rated speed rpm : 1445
Rack travel in mm		Tolerance 1/min : +- 5
Tolerance mm	: + 0.10	rack travel mm : 4.00
Del. quantity cm3/1000 strokes	: 12.5	rack travel mm : 4.00 Rated speed rpm : 1485
Tolerance		Tolerance 1/min : +- 15
cm3/1000 strokes	: + 2.0	
Check tolerance	†	rack travel mm : 0.85
cm3/1000s. Spreed	: + 4.0	Tolerance mm : +- 0.55 Rated speed rpm : 1600
Tolerance	1	Nacca opeca (piii : 1000
cm3/1000 strokes	: 4.5	rack travel mm : 4.00
Check tolerance	: 7.0	Rated speed rpm : 1520
cm3/1000s.	: 7.0	
	+	
(B) SETTING OF IN	NECTION PUMP	LOW IDLE
WITH GOVERNOR	Ī	
	+	control lever
		position degree : 68.0
GUIDE SLEEVE POSI	TION	Setting point worth human anning
Rated speed rpm	: 800	Setting point w/out bumper spring
nated opeca (pili	. 555	Rated speed rpm : 325
Rack travel in mm		rack travel mm : 7.50
Tolerance mm	: + 0.20 +	Testing:
governor spring	Ī	resting:
pre-tension	+	Rated speed rpm : 325
click setting x	: 5.25	rack travel mm * 8.00
		Tolerance mm : + 0.10
FULL LOAD DELIVER	Y AT FULL LOAD STOP	rack travel mm : 2.00
	+	Rated speed rpm : 630
Rated speed rpm	: 1400 +	Tolerance 1/min : +- 30
Aneroid pressure	: 700	Rated speed rpm : 100
hPa Del. quantity	: 700	Rated speed rpm : 100
cm3/1000 strokes	: 76.5	CRT mm min. :> 19.50
Tolerance	+	
cm3/1000 strokes Check tolerance	: + 0.5	TORQUE CONTROL
cm3/1000s.	: + 2.5	JONTON JOHNOL
Spreed	+	Rated speed rpm : 1400
Tolerance	+	rack travel mm : 10.85
cm3/1000 strokes	: 3.0	Tolerance mm : + 0.05
Check tolerance cm3/1000s.	: 7.0	Rated speed rpm : 500
0.1137 100001	+	rack travel mm : 12.05
	+	Tolerance mm : + 0.05
CONTROL LEVED		Rated speed rpm : 1040
CONTROL LEVER	I	rack travel mm : 11.50
control lever	+	rack travel mm : 11.50 Tolerance mm : + 0.10
position degree	: 119.0	
	+	

RATED SPEED

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 700
rack travel mm : 12.05
Tolerance mm : + 0.05

MEASUREMENT

Pressure hPa : Rated speed rpm : 500
rack travel mm : 10.25
Tolerance mm : + 0.05

Rated speed rpm : 500

Pressure hPa : 95 rack travel mm : 10.70 Tolerance mm : +- 0.10

Pressure hPa : 360 rack travel mm : 11.75 Tolerance mm : + 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa : Rated speed rpm : 500
Del. quantity
cm3/1000 strokes : 45.5

Tolerance cm3/1000 strokes : + 0.5

Check tolerance

cm3/1000s. : +- 2.5

BREAKAWAY

Rack travel in mm: 9.80
Rated speed rpm: 1445
Tolerance 1/min: + 5

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 17.20 Tolerance mm : + 0.20

Del. quantity

cm3/1000 strokes : 110.0

Tolerance

cm3/1000 strokes : +- 7.5

Check tolerance

cm3/1000s. : +- 10.0

LOW IDLE

Rated speed rpm 325 rack travel mm 8.00 Tolerance mm 0.10 Del. quantity cm3/1000 strokes : 12.5 Tolerance cm3/1000 strokes 2.0 Check tolerance cm3/1000s. 4.0 Spreed Tolerance cm3/1000 strokes : 4.5 Check tolerance cm3/1000s. 7.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 08.09.95 Test oil : ISO 4113

Combination No. : 0 400 866 221

Injection pump

Pump designation : PES6A95D41D/3RS2876 EP type number : 0 410 896 886

Governor

Governer design. : RSV325...900A7C720L

Governer no. : 0 420 232 339

Cust. part No. : 0 423 1366 KY0150

: -17

Customer-spec. information

Customer : KHD Motor : BF6L913C

Power KW : 102.0

TEST BENCH REQUIREMENTS

Inlet line : 1.3

Test oil inlet

temp. °C : 40 Tolerance °C : +- 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly : 0 681 343 009

Opening pressure

bar : 173.5 Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 2.65
Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : \leftarrow 0.50

Check

tolerance °NW : + 0.75

BASIC SETTING

Rated speed rpm : 900

Rack travel in mm : 13.10 Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 92.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance cm3/1000s. : + 3.0

Spreed

Tologopae	ı
Tolerance cm3/1000 strokes : 3.5	control lever position degree : 99.0
Check tolerance cm3/1000s. : 8.0	tolerance degree : +- 4.0
Rated speed rpm : 325	+ RATED SPEED
Pools through the same of 00	rack travel mm : 12.10
Rack travel in mm : 6.80 Tolerance mm : +- 0.10 Del. quantity	Rated speed rpm : 945 Tolerance 1/min : + 5
cm3/1000 strokes : 12.0 Tolerance	rack travel mm : 4.00
cm3/1000 strokes : + 2.0 Check tolerance	+ Rated speed rpm : 965 + Tolerance 1/min : +- 15
cm3/1000s. : +- 4.5 Spreed	rack travel mm : 0.85 Tolerance mm : + 0.55
Tolerance cm3/1000 strokes : 5.5	Rated speed rpm : 1100
Check tolerance	Track travel mm : 4.00
cm3/1000s. : 9.0	Rated speed rpm : 985
(B) SETTING OF INJECTION PUMP	†
WITH GOVERNOR	LOW IDLE
	+
GUIDE SLEEVE POSITION	+ control lever + position degree : 66.0
GOINE OFFICE LOGISTON	tolerance degree : + 4.0
Rated speed rpm : 800	+ Satting point of out homes again
Rack travel in mm : 0.50	+ Setting point w/out bumper spring
Tolerance mm : + 0.20	Rated speed rpm : 325
governor spring	+
pre-tension click setting x : 4.00	+ Testing:
click setting x : 4.00	Rated speed rpm : 325
	rack travel mm : 6.80
FULL LOAD DELIVERY AT FULL LOAD STOP	† Tolerance mm : + 0.10
Rated speed rpm : 900	rack travel mm : 2.00
Aneroid pressure	+ Rated speed rpm : 400
hPa : - Del. quantity	+ Tolerance 1/min : + 30
cm3/1000 strokes : 92.0	
Tolerance cm3/1000 strokes : +- 1.0	TORQUE CONTROL
Check tolerance	Rated speed rpm : 900
cm3/1000s. : + 3.0	rack travel mm : 13.10
Spreed Tolerance	Tolerance mm : + 0.05
cm3/1000 strokes : 3.5	Rated speed rpm : 600
Check tolerance	rack travel mm : 13.15
cm3/1000s. : 8.0	Tolerance mm : +- 0.05
	
	+

BREAKAWAY

Rack travel in mm: 12.10
Rated speed rpm: 945
Tolerance 1/min: 5

STARTING FUEL DELIVERY

Rated speed rom 100 rack travel mm 13.70 . Tolerance mm : -- 0.20 Del. quantity cm3/1000 strokes 105.0 Tolerance cm3/1000 strokes : +- 7.5 Check tolerance cm3/1000s. : +- 10.0

LOW IDLE

Rated speed rpm 325 rack travel mm 6.80 Tolerance nm 0.10 Del. quantity cm3/1000 strokes 12.0 Tolerance cm3/1000 strokes 2.0 Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes 5.5 Check tolerance cm3/1000s. 9.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 06.09.95 Test oil : ISO 4113

Combination No. : 0 402 046 789

Injection pump

Pump designation : PES6P120A320RS3139

EP type number : 0 412 026 718

Governor

Governer design. : RQV275...1000PA728

: -3

Governer no. : 0 421 813 657

Cust. part No. : CCEP 5070 -116

Customer-spec. information

Customer : RVI

: MIDR 062045 H Motor

Power KW : 227.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C Tolerance °C 2.0

Overflow valve : 2 417 413 071

2.5 Inlet press. bar :

Test nozzle holde

: 1 688 901 019 assembly

Opening pressure

208.5 bar Tolerance bar : +- 1.5

Test Lines : 1 680 750 075

Outside diameter : 8.0 x inside diameter: 3.0 x Length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : +- 1.0

Prestroke mm 3.55 Tolerance mm : + 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm: 10.50 Tolerance mm : + 1.50

: 1-5-3-6-2-Firing order

: 0-60-120-180-240 Phasing

: -300

Tolerance : + 0.30

Check

tolerance °NW : +- 0.50

Start of delivery mark

Barrel no.

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm: 11.15

Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 197.0

Tolerance

cm3/1000 strokes 1.0

Check tolerance

cm3/1000s. : +-4.0

1	
Spreed Tolerance cm3/1000 strokes : 5.0	rack travel mm : -1.00 Rated speed rpm : 1080 Tolerance 1/min : +- 5
Check tolerance cm3/1000s. 9.0	rack travel mm : -7.15 Rated speed rpm : 1195 Tolerance 1/min : +- 15
Del. quantity cm3/1000 strokes : 27.0 Tolerance cm3/1000 strokes : +- 2.0 Check tolerance	rack travel mm : -10.65 Tolerance mm : +- 0.50 Rated speed rpm : 1300
cm3/1000S. : + 5.0	LOW IDLE
cm3/1000 strokes : 8.0 Check tolerance	
cm3/1000s. : 12.0	control lever position degree : 67.0 tolerance degree : +- 4.0
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	Testing:
GUIDE SLEEVE POSITION	Rated speed rpm : 275 rack travel mm : -5.30 Tolerance mm : +- 0.15
Rated speed rpm : 1170	Rated speed rpm : 200
Rack travel in mm: 16.50 Tolerance mm: + 1.30	CRT mm max. : < -3.80
	Rated speed rpm : 370
FULL LOAD DELIVERY AT FULL LOAD STOP	TORQUE CONTROL
Rated speed rpm : 1000 Aneroid pressure hPa : 1000 Del. quantity	Rated speed rpm : 600
cm3/1000 strokes : 197.0 Tolerance cm3/1000 strokes : + 1.0	ANEROID/ALTITUDE COMPENSATOR TEST
Check tolerance cm3/1000s. : +- 4.0 +-	SETTING
Tolerance cm3/1000 strokes : 5.0 Check tolerance	Rated speed rpm : 500 Pressure hPa : 1000
cm3/1000s. : 9.0	MEASUREMENT
CONTROL LEVER	Pressure hPa : - Rated speed rpm : 500 rack travel mm : -2.20
control lever	Tolerance mm : + 0.20
position degree : 119.0 + tolerance degree : +- 4.0 +	Rated speed rpm : 500
RATED SPEED	Pressure hPa : 160 rack travel mm : -1.70

Tolerance mm	: + 0.10
December 40s	. 200
Pressure hPa rack travel mm	: 280 : -0.75
Tolerance mm	: +- 0.05
rocer acros tisir	
START CUT-OUT	
Rated speed rpm	; > 100
Rated speed rpm Rated speed rpm	: < 195
Check	
speed 1/min	: > 80
Check speed 1/min	: < 215
FUEL DELIVERY CHA	ARACTERISTICS
Aneroid pressure	
hPa	: 1000
Rated speed rpm Del. quantity	: 600
cm3/1000 strokes	: 197.0
Tolerance	
cm3/1000 strokes	: +- 3.0
Check tolerance cm3/1000s.	: +- 6.0
A	
Aneroid pressure hPa	:
Rated speed rpm	500
Del. quantity	
cm3/1000 strokes	: 104.0
Tolerance cm3/1000 strokes	: +- 1.0
Check tolerance	. +- 1.0
cm3/1000s.	: ← 4.0
BREAKAWAY	
DREARANT	
Rack travel in mm	-1.00
Rated speed rpm	: 1080
Tolerance 1/min	: +- 5
OTABETAIO ELEI DEL	TARRA
STARTING FUEL DEL	TACKI
Rated speed rpm	: 100
Del. quantity cm3/1000 strokes	: 145.0
Tolerance	· U.CHI
cm3/1000 strokes	: ← 10.0
Check tolerance	4/ 0
cm3/1000s.	: + 14.0

LOW IDLE		
Del. quantity cm3/1000 strokes Tolerance	:	27.0
cm3/1000 strokes	; +-	2.0
Check tolerance		r 0
cm3/1000s. Spreed	: +-	5.0
Tolerance		
cm3/1000 strokes	:	8.0
Check tolerance	•	12 N

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil : 24.08.95 : ISO 4113

Combination No. : 0 400 464 116

Injection pump

Pump designation : PES4A75D410/3RS1255

EP type number : 0 410 474 966

Governor

Governer design. : RSV325...900A7C602L

Governer no. : 0 420 232 320

Cust. part No. :

Customer-spec. information Customer : KHD

Motor

: F4L912

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C

Tolerance °C

Overflow valve : 1 417 413 000

Inlet press. bar : 1.0

Test nozzle holde

assembly

: 0 681 343 009

Opening pressure

bar

: 173.5

Tolerance bar

: **←** 1.5

Test Lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter :

2.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Firing order : 1-3-4-2

Phasing

: 0-90-180-270

Tolerance Check

: +- 0.50

tolerance °NW

: ← 0.75

BASIC SETTING

Rated speed rpm :

088

Rack travel in mm: 11.25

Tolerance mm

: +- 0.05

Del. quantity

cm3/1000 strokes : 44.0

Tolerance

cm3/1000 strokes : + 0.5

Check tolerance

cm3/1000s.

: +- 2.0

Spreed

Tolerance

cm3/1000 strokes :

2.0

3.5

Check tolerance

cm3/1000s.

:

Rated speed rpm :

325

Rack travel in mm : Tolerance mm : +- 0.20

8.70

Del. quantity

cm3/1000 strokes : 12.0

Tolerance

cm3/1000 strokes : +- 3.0

Check tolerance + cm3/1000s. : +- 4.5 +	
Spreed + Tolerance + cm3/1000 strokes : 2.0 +	LOW IDLE
Check tolerance cm3/1000s. : 3.0	control lever position degree : 25.0
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	tolerance degree : + 4.0 Setting point w/out bumper spring
‡	Rated speed rpm : 325 rack travel mm : 8.70
GUIDE SLEEVE POSITION	
Rated speed rpm : 800	Testing:
Rack travel in mm: 0.65 Tolerance mm: + 0.35	Rated speed rpm : 325 rack travel mm : 8.20 Tolerance mm : +- 0.10
FULL LOAD DELIVERY AT FULL LOAD STOP	rack travel mm : 2.00 Rated speed rpm : 450 Tolerance 1/min : +- 30
Rated speed rpm : 880 Aneroid pressure hPa : -	Rated speed rpm : 100
Del. quantity cm3/1000 strokes : 44.0	CRT mm min. : > 19.50
Tolerance cm3/1000 strokes : +- 0.5	TORQUE CONTROL
Check tolerance cm3/1000s. : + 2.0	Rated speed rpm : 880
Spreed +	rack travel mm : 11.25 Tolerance mm : + 0.05
cm3/1000 strokes : 2.0 +	Rated speed rpm : 500
cm3/1000s. : 3.5	rack travel mm : 11.30 Tolerance mm : + 0.10
CONTROL LEVER	
control lever position degree : 54.0 tolerance degree : + 4.0	BREAKAWAY
RATED SPEED	Rack travel in mm : 10.20
rack travel mm : 10.20 Rated speed rpm : 925 Tolerance 1/min : + 5	Rated speed rpm : 925 Tolerance 1/min : +- 5
rack travel mm : 4.00 Rated speed rpm : 960 Tolerance 1/min : + 15	STARTING FUEL DELIVERY
rack travel mm : 1.00 Tolerance mm : + 0.70 Rated speed rpm : 1050	Rated speed rpm : 100

LOW IDLE

Rated speed rpm rack travel mm Tolerance mm Del. quantity	: : : +-	325 8.70 0.20	
	:	12.0	
Tolerance		7.0	
cm3/1000 strokes Check tolerance	; +	3.0	
cm3/1000s.	; +-	4.5	
Spreed			
Tolerance cm3/1000 strokes	•	2.0	
Check tolerance	•		
cm3/1000s.	:	3.0	

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 04.05.95 Test oil : ISO 4113

Combination No. : 0 400 464 118

Injection pump

Pump designation : PES4A75D410/3RS1255

EP type number : 0 410 474 966

Governor

Governer design. : RSV325...1400A8C742L

Governer no. : 0 420 232 342

Cust. part No.

Customer—spec. information Customer : KHD

Motor : F4L912

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly : 0 681 343 009

Opening pressure

bar : 173.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Firing order : 1-3-4-2

Phasing : 0-90-180-270

Tolerance : +- 0.50

Check

tolerance °NW : +- 0.75

BASIC SETTING

Rated speed rpm : 1400

Rack travel in mm: 11.55

Tolerance mm : + 0.05

Del. quantity cm3/1000 strokes : 55.5

Tolerance

cm3/1000 strokes : +- 0.5

Check tolerance

cm3/1000s. : +- 2.0

Spreed Tolerance

ioterance

cm3/1000 strokes : 2.0

Check tolerance

cm3/1000s. : 3.5

Rated speed rpm : 325

Rack travel in mm: 6.00

Tolerance mm : +- 0.20 Del. quantity

cm3/1000 strokes : 12.0 Tolerance

cm3/1000 strokes : +- 3.0

Check tolerance cm3/1000s. : + 4.5 Spreed Tolerance cm3/1000 strokes : 2.0 Check tolerance cm3/1000s. : 3.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR	rack travel mm : 0.85 Tolerance mm : + 0.55 Rated speed rpm : 1600 rack travel mm : 4.00 Rated speed rpm : 1500 LOW IDLE
GUIDE SLEEVE POSITION	control lever position degree : 14.0 tolerance degree : + 4.0
Rated speed rpm : 800	7
Rack travel in mm : 0.50 Tolerance mm : + 0.20	Fated speed rpm : 325 rack travel mm : 5.50
governor spring pre-tension click setting x : 4.75	Testing: Rated speed rpm : 325
FULL LOAD DELIVERY AT FULL LOA	rack travel mm : 6.00
Rated speed rpm : 1400 Aneroid pressure hPa : - Del. quantity	rack travel mm : 2.00 Rated speed rpm : 550 Tolerance 1/min : + 30
cm3/1000 strokes : 55.5 Tolerance cm3/1000 strokes : +- 0.5	TORQUE CONTROL
Check tolerance cm3/1000s. : + 2.0 Spreed Tolerance	Dimension a mm : 0.90 Rated speed rpm : 1400 rack travel mm : 11.55 Tolerance mm : +- 0.05
cm3/1000 strokes : 2.0 Check tolerance cm3/1000s. : 3.5	Rated speed rpm : 500 rack travel mm : 12.45 Tolerance mm : +- 0.05
CONTROL LEVER	Rated speed rpm : 900 rack travel mm : 12.30 Tolerance mm : + 0.10
control lever position degree : 72.0 tolerance degree : +- 4.0	
RATED SPEED	FUEL DELIVERY CHARACTERISTICS
rack travel mm : 10.00 Rated speed rpm : 1445 Tolerance 1/min : +- 5	Aneroid pressure hPa : -
rack travel mm : 4.00 Rated speed rpm : 1485 Tolerance 1/min : + 15	Rated speed rpm : 800 Del. quantity cm3/1000 strokes : 51.0

spring

Tolerance cm3/1000 strokes : +-1.0 Check tolerance cm3/1000s. 3.0 **BREAKAWAY** Rack travel in mm: 10.00 Rated speed rpm : 1445 Tolerance 1/min STARTING FUEL DELIVERY Rated speed rpm 100 20.25 rack travel mm Tolerance mm : +- 0.75 Del. quantity cm3/1000 strokes : 110.0 Tolerance cm3/1000 strokes : +-5.0 Check tolerance cm3/1000s. 8.0 LOW IDLE Rated speed rpm 325 6.00 rack travel mm Tolerance mm : +- 0.20 Del. quantity cm3/1000 strokes : 12.0 Tolerance cm3/1000 strokes : +-3.0 Check tolerance cm3/1000s. 4.5 Spreed Tolerance 2.0 cm3/1000 strokes : Check tolerance 3.0 cm3/1000s.

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition

: 27,07,92

Test oil

: ISO 4113

Combination No. : 0 400 466 099

Injection pump

Pump designation : PES6A75D41D/3RS136D

EP type number : 0 410 476 976

Governor

Governer design. : RSV325...1150A8C494

: -4L

Governer no.

: 0 420 232 572

Cust. part No. :

Customer-spec. information : KHD Customer

Motor

: F6L912

Power KW

: 74.0

TEST BENCH REQUIREMENTS

Inlet line

: 3.1

Test oil inlet

temp. °C

40

Tolerance °C

2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly

: 0 681 343 009

Opening pressure

bar

173.5

Tolerance bar

: +- 1.5

Test lines

: 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Firing order

: 1-5- 3- 6- 2-: 4

Phasing

: 0-60-120-180-240

: -300

Tolerance

: + 0.50

Check

tolerance °NW

: + 0.75

BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm: 11.15

Tolerance mm

: + 0.05

Del. quantity

cm3/1000 strokes :

52.0

Tolerance

cm3/1000 strokes : +-0.5

Check tolerance

cm3/1000s.

: +--

Spreed

Tolerance

cm3/1000 strokes :

2.5

2.0

Check tolerance

cm3/1000s.

4.0

Del. quantity

cm3/1000 strokes :

13.0

Tolerance

cm3/1000 strokes : +- 3.0

B05

Check tolerance cm3/1000s. 4.5 rack travel mm 0.85 : Spreed Tolerance mm : + - 0.55Tolerance Rated speed rpm 1350 cm3/1000 strokes : 2.0 Check tolerance rack travel mm 4.00 3.5 cm3/1000s. Rated speed rpm 1250 (B) SETTING OF INJECTION PUMP LOW IDLE WITH GOVERNOR control lever GUIDE SLEEVE POSITION 71.0 position degree : tolerance degree : + 4.0 800 Rated speed rpm : Setting point w/out bumper spring Rack travel in mm : 0.65 Tolerance mm : + 0.35325 Rated speed rpm 7.20 rack travel mm governor spring pre-tension Testing: click setting x 4.20 Rated speed rpm 325 6.70 rack travel mm FULL LOAD DELIVERY AT FULL LOAD STOP Tolerance mm : +- 0.10 1150 2.00 Rated speed rpm • rack travel mm . Aneroid pressure Rated speed rpm 465 Tolerance 1/min 30 hPa Del. quantity cm3/1000 strokes : 52.0 Rated speed rpm 100 Tolerance cm3/1000 strokes : +-0.5 CRT mm min. : > 19.50 Check tolerance cm3/1000s. 2.0 Spreed TORQUE CONTROL Tolerance cm3/1000 strokes : 2.5 1150 Rated speed rpm 11.15 Check tolerance rack travel mm cm3/1000s. 4.0 . Tolerance mm : +- 0.05 750 Rated speed rpm : rack travel mm 12.40 CONTROL LEVER Tolerance mm : + - 0.10control lever Rated speed rpm 950 position degree : 106.0 rack travel mm 11.70 Tolerance mm : + 0.10tolerance degree : + 4.0 RATED SPEED 10.10 rack travel mm Rated speed rpm 1195 FUEL DELIVERY CHARACTERISTICS Tolerance 1/min 4.00 Aneroid pressure rack travel mm 1240 Rated speed rpm 750

Tolerance 1/min

15

Rated speed rpm

Del. quantity cm3/1000 strokes : 56.0 Tolerance cm3/1000 strokes : +-1.0 Check tolerance cm3/1000s. 3.0 BREAKAWAY Rack travel in mm: 10.10 Rated speed rpm : Tolerance 1/min STARTING FUEL DELIVERY Rated speed rpm 100 20.25 rack travel mm Tolerance mm 0.75 Del. quantity cm3/1000 strokes : 120.0 Tolerance cm3/1000 strokes 5.0 Check tolerance cm3/1000s. 8.0 LOW IDLE Del. quantity cm3/1000 strokes : 13.0 Tolerance 3.0 cm3/1000 strokes Check tolerance cm3/1000s. 4.5 Spreed Tolerance 2.0 cm3/1000 strokes : Check tolerance cm3/1000s. 3.5 End of test specification sheet

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil : 29,05,95 : ISO 4113

Combination No. : 0 400 863 012

Injection pump

Pump designation : PES3A85D410/3RS2731

EP type number : 0 410 883 988

Governor

Governer design. : RSV325...1250A2C2168

: -3L

Governer no.

: 0 420 232 475

Cust. part No.

Customer-spec. information

Customer

: KHD

Motor

: F3L913

Power KW

: 44.0

TEST BENCH REQUIREMENTS

Inlet line

: 3.1

Test oil inlet

temp. °C

40

Tolerance °C

2.0

Overflow valve : 1 417 413 000

Inlet press. bar :

1.0

Test nozzle holde

assembly

: 0 681 343 009

Opening pressure

bar

173.5

Tolerance bar

Test lines

: 1 680 750 014

Outside diameter :

6.0

x inside diameter:

x length mm :

2.0 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar: 26.0 Tolerance bar : +- 1.0

: 1- 3- 2 Firing order

Phasing

: 0-120-240

Tolerance

: +- 0.50

Check

tolerance "NW

: + 0.75

BASIC SETTING

Rated speed rpm : 1250

9.95 Rack travel in mm :

Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes :

69.0

Tolerance

cm3/1000 strokes 0.5 : +-

Check tolerance

cm3/1000s.

: +-2.5

Spreed

Tolerance

cm3/1000 strokes :

3.0

Check tolerance

cm3/1000s.

5.0

Rated speed rpm :

325

Rack travel in mm :

6.30

Tolerance mm

: + 0.20

Del. quantity

cm3/1000 strokes : 13.0

B08

Tolerance +	Rated speed rpm : 1330
cm3/1000 strokes : +- 3.0 +	Tolerance 1/min : +- 15
Check tolerance	
cm3/1000s. : + 5.0	rack travel mm : 0.85
Spreed	Tolerance mm : + 0.55
Tolerance	Rated speed rpm : 1500
cm3/1000 strokes : 2.5	naced speed (pill) . 1500
Check tolerance	rack travel mm : 4.00
cm3/1080s. : 4.5	Rated speed rpm : 1345
†	
(D) OFFICE OF THE FOTTON DUMP	
(B) SETTING OF INJECTION PUMP	LOIA TOLET
WITH GOVERNOR +	LOW IDLE
†	
†	
	control lever
GUIDE SLEEVE POSITION +	position degree : 66.0
.	tolerance degree : +- 4.0
Rated speed rpm : 800	
	Setting point W/out bumper spring
Rack travel in mm: 0.50 +	
Tolerance mm : + 0.20 +	Rated speed rpm : 325
+	rack travel mm : 5.80
governor spring +	
pre-tension +	Testing:
click setting x : 4.50	
+	Rated speed rpm : 325
	rack travel mm : 6.30
FULL LOAD DELIVERY AT FULL LOAD STOP	Tolerance mm : + 0.10
+	
Rated speed rpm : 1250	rack travel mm : 2.00
Aneroid pressure	Rated speed rpm : 490
hPa : -	Tolerance 1/min : + 30
Del. quantity	
cm3/1000 strokes : 69.0	Rated speed rpm : 100
Tolerance	taca opeca ipii i too
cm3/1000 strokes : +- 0.5	CRT mm min. :> 19.50
Check tolerance	ONE CAMP CIFERS
cm3/1000s. : +- 2.5	
	TORQUE CONTROL
Spreed † Tolerance †	TORAGE CONTROL
cm3/1000 strokes : 3.0	Dimension a mm : 0.40
	Rated speed rpm : 1250
Check tolerance tm3/1000s. : 5.0	rack travel mm : 9.95
cm3/1000s. : 5.0	
	Tolerance mm : + 0.05
†	Datasi ayard yar
CONTROL I FUED	Rated speed rpm : 500
CONTROL LEVER	rack travel mm : 10.25
†	Tolerance mm : +- 0.05
control lever	
position degree : 95.0 +	Rated speed rpm : 960
tolerance degree : + 4.0 +	rack travel mm : 10.00
+	Tolerance mm : + 0.10
RATED SPEED +	
+	
rack travel mm : 8.90	
Rated speed rpm : 1295	
Tolerance 1/min : + 5	
+	FUEL DELIVERY CHARACTERISTICS
rack travel mm : 4.00	
ľ	

Aneroid pressure hPa Rated speed rpm 800 Del. quantity cm3/1000 strokes 59.0 Tolerance cm3/1000 strokes 1.0 Check tolerance cm3/1000s. 3.5 **BREAKAWAY** Rack travel in mm: 8.90 Rated speed rpm Tolerance 1/min STARTING FUEL DELIVERY Rated speed rpm 100 17,10 rack travel mm Tolerance mm : +- 0.10 Del. quantity cm3/1000 strokes 120.0 Tolerance cm3/1000 strokes 5.0 Check tolerance cm3/1000s. 8.0 LOW IDLE Rated speed rpm 325 6.30 rack travel mm 0.20 Tolerance mm Det. quantity cm3/1000 strokes 13.0 Tolerance cm3/1000 strokes 3.0 Check tolerance cm3/1000s. 5.0 Spreed Tolerance 2.5 cm3/1000 strokes Check tolerance 4.5 cm3/1000s. End of test specification sheet

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 28.04.95 Test oil : ISO 4113

Combination No. : 0 400 863 014

Injection pump

Pump designation : PES3A85D410/3RS2642

EP type number : 0 410 883 989

Governor

Governer design. : RSV325...1000A8C2102

: -SL

Governer no. : 0 420 232 507

Cust. part No. :

Customer-spec. information Customer : KHD Motor : F31913 Power KW : 37.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. $^{\circ}$ C : 40 Tolerance $^{\circ}$ C : + 2.0

Overflow valve : 1 417 413 000

Inlet press. bar : 1.5

Test nozzle holde

assembly : 0 681 343 009

Opening pressure

bar : 173.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm: 600

REMARKS

(A) INJECTION PUMP SETTING VALUES Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Firing order : 1- 3- 2

Phasing : 0-120-240
Tolerance : + 0.50

Check

tolerance °NW : + 0.75

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 10.05 Tolerance mm : + 0.05

Del. quantity cm3/1000 strokes : 63.0

Tolerance cm3/1000 strokes : +-

Check tolerance cm3/1000s. : + 2.5

0.5

Spreed

Tolerance

cm3/1000 strokes : 3.0

Check tolerance cm3/1000s. : 5.0

Rated speed rpm : 325

Rack travel in mm: 7.60
Tolerance mm: + 0.20

Del. quantity

cm3/1000 strokes : 12.0

Tolerance		+ Ra	ated speed rpm	: 1075
cm3/1000 strokes	: +- 3.0		olerance 1/min	
Check tolerance cm3/1000s.	: + 5.0	‡ ra	ick travel min	: 0.85
Spreed	, ,,,	+ To	lerance mm	: + 0.55
Tolerance cm3/1000 strokes	: 2.5	† Ra	ited speed rpm	: 1240
Check tolerance	: 2.5	T ra	ick travel mm	: 4.00
cm3/1000s.	: 4.5		ted speed rpm	
		İ		
(B) SETTING OF I	NJECTION PUMP	I -		
WITH GOVERNOR		+ LO	W IDLE	
		1		
			ntrol lever	
GUIDE SLEEVE POS	ITION		sition degree lerance degree	
Rated speed rpm	: 800	1	terance degree	4.0
Dank dansant da sa	0.50	+ Se	tting point w/o	ut bumper spr
Rack travel in mr Tolerance mm		‡ Ra	ted speed rpm	: 325
			ck travel mm	
governor spring pre-tension		† Ta	sting:	
click setting x	: 4.30	Į 'e	strig.	
			ted speed rpm	
FULL LOAD DELIVER	RY AT FULL LOAD STOP		ck travel mm lerance mm	: 7.60 : ← 0.10
		+		
Rated speed rpm Aneroid pressure			ck travel mm ted speed rpm	: 2.00 : 440
hPa	:		lerance 1/min	: +- 30
Del. quantity	47.0	+ _		400
cm3/1000 strokes Tolerance	: 63.0	† Ra	ted speed rpm	: 100
cm3/1000 strokes	: + 0.5	+ CR	T mm min.	: > 19.50
Check tolerance cm3/1000s.	2 5	† _		
Spreed	: +- 2.5	TO	RQUE CONTROL	
Tolerance	7.0	+		0.50
cm3/1000 strokes Check tolerance	: 3.0		mension a mm ted speed rpm	: 0.50 : 1000
cm3/1000s.	: 5.0	+ ra	ck travel mm	: 10.05
		+ To	lerance mm	: +- 0.05
		T Rat	ted speed rpm	: 500
CONTROL LEVER		+ rai	ck travel mm	: 10.55
control lever		10	lerance mm	: +- 0.05
position degree			ted speed rpm	
tolerance degree	: ← 4.0		ck travel mm lerance mm	: 10.30 : + 0.10
RATED SPEED		T 101	terance mm	: 0.10
		+		
rack travel mm Rated speed rpm	: 9.00 : 1045	İ		
Tolerance 1/min		ļ		
	. /. 00	+ FUE	EL DELIVERY CHA	RACTERISTICS
rack travel mm	: 4.00	Ť		

spring

Aneroid pressure hPa Rated speed rpm 750 Del. quantity cm3/1000 strokes : 60.0 Tolerance 1.0 cm3/1000 strokes Check tolerance cm3/1000s. 3,5 BREAKAWAY 9.00 Rack travel in mm: Rated speed rpm Tolerance 1/min STARTING FUEL DELIVERY Rated speed rpm 100 20.25 rack travel mm : + 0.75 Tolerance mm Del. quantity cm3/1000 strokes : 140.0 Tolerance cm3/1000 strokes 5.0 Check tolerance cm3/1000s. 8.0 LOW IDLE 325 Rated speed rpm 7.60 rack travel mm 0.20 Tolerance mm Del. quantity cm3/1000 strokes 12.0 Tolerance cm3/1000 strokes 3.0 Check tolerance cm3/1000s. 5.0 Spreed Tolerance cm3/1000 strokes 2.5 Check tolerance cm3/1000s. 4.5

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 17.06.95 Test oil : ISO 4113

Combination No. : 0 400 864 054

Injection pump

Pump designation : PES4A85D410/3RS2638

EP type number : 0 410 884 950

Governor

Governer design. : RSV325...1150A0C2168

: L

Governer no. : 0 420 232 364

Cust. part No.

Customer-coec information

Customer-spec. information
Customer : KHD
Motor : BF4L913
Power KW : 66.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. $^{\circ}$ C : 40 Tolerance $^{\circ}$ C : + 2.0

Overflow valve : 1 417 413 000

Inlet press. bar : 1.5

Test nozzle holde

assembly : 0 681 343 009

Opening pressure

bar : 173.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Firing order : 1-3-4-2

Phasing : 0-90-180-270

Tolerance : + 0.50

Check

tolerance °NW : +- 0.75

BASIC SETTING

Rated speed rpm : 1110

Rack travel in mm : 12.35 Tolerance mm : + 0.05

Del. quantity cm3/1000 strokes : 80.5

Tolerance

cm3/1000 strokes : +- 0.5

Check tolerance cm3/1000s. : + 2.5

Spreed

Tolerance

cm3/1000 strokes :

3.0

Check tolerance

cm3/1000s. : 4.5

Rated speed rpm : 325

Rack travel in mm: 7.70

Tolerance mm : + 0.20 Del. quantity

cm3/1000 strokes : 12.0

Tolerance	- Rated speed rpm : 1265
cm3/1000 strokes : +- 3.0 + Check tolerance	- Tolerance 1/min : +- 15
cm3/1000s. : +- 5.0	rack travel mm : 0.85
Spreed	- Tolerance mm : +~ 0.55
Tolerance	- Rated speed rpm : 1430
cm3/1000 strokes : 2.0	• ()
Check tolerance	rack travel mm : 4.00
cm3/1000s. : 4.0	- Rated speed rpm : 1335
	•
(B) SETTING OF INJECTION PUMP	
WITH GOVERNOR	- LOW IDLE
†	•
	- - control lever
GUIDE SLEEVE POSITION	- position degree : 81.0
	tolerance degree : +- 4.0
Rated speed rpm : 800	•
†	 Setting point w/out bumper spring
Rack travel in mm: 0.50 + Tolerance mm: + 0.20 +	- - Rated speed rpm : 325
Tolerance mm : + 0.20	- Rated speed rpm : 325 - rack travel mm : 7.70
governor spring	· · · · · · · · · · · · · · · · · · ·
pre-tension +	· Testing:
click setting x : 4.75	
†	Rated speed rpm : 325
FULL LOAD DELIVERY AT FULL LOAD STOP	rack travel mm : 7.20 Tolerance mm : + 0.10
TOLL COAD DELIVERY AT TOLL LOAD STOP	. Total arrealism . Total
Rated speed rpm : 1110	rack travel mm : 2.00
Aneroid pressure	Rated speed rpm : 555
hPa : -	Tolerance 1/min : +- 25
Del. quantity + cm3/1000 strokes : 80.5	Rated speed rpm : 100
Tolerance	Rated Speed (pill : 100
cm3/1000 strokes : + 0.5	CRT mm min. : > 19.50
Check tolerance	•
cm3/1000s. : + 2.5	TAROUS ANTROI
Spreed +	TORQUE CONTROL
cm3/1000 strokes : 3.0	Rated speed rpm : 1110
Check tolerance +	rack travel mm : 12.35
cm3/1000s. : 4.5	Tolerance mm : + 0.05
†	Rated speed rpm : 500
1	Rated speed rpm : 500 rack travel mm : 13.15
CONTROL LEVER	Tolerance mm : +- 0.05
+	
control lever	Rated speed rpm : 940
position degree : 105.0	rack travel mm : 12.80
tolerance degree : + 4.0	Tolerance mm : + 0.10
RATED SPEED	
rack travel mm : 11.30	
Rated speed rpm : 1160	FUEL DEL TUEDV CHADACTERTOTACO
Tolerance 1/min : +- 5	FUEL DELIVERY CHARACTERISTICS
rack travel mm : 4.00	
1 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	

Aneroid pressure Rated speed rpm 700 Del. quantity 80.5 cm3/1000 strokes : Tolerance cm3/1000 strokes 1.0 Check tolerance cm3/1000s. 3.5 : +-**BREAKAWAY** Rack travel in mm: 11.30 Rated speed rpm 1160 Tolerance 1/min STARTING FUEL DELIVERY 100 Rated speed rpm rack travel mm 17,00 Tolerance mm : +- 0.20 Del. quantity cm3/1000 strokes : 105.0 Tolerance cm3/1000 strokes 5.0 Check tolerance cm3/1000s. 8.0 LOW IDLE 325 Rated speed rpm 7.70 rack travel mm Tolerance mm 0.20 Del. quantity cm3/1000 strokes 12.0 Tolerance cm3/1000 strokes 3.0 Check tolerance cm3/1000s. 5.0 Spreed Tolerance 2.0 cm3/1000 strokes : Check tolerance cm3/1000s. 4.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 18.09.95 Test oil : ISO 4113

Combination No. : 0 400 864 087

Injection pump

Pump designation : PES4A85D410/3RS2799

EP type number : 0 410 884 944

Governor

Governer design. : RSV325...1075A8C2253

: -1L

Governer no. : 0 420 232 555

Cust. part No. :

Customer-spec. information

Customer : KHD

Motor : BF4L913 Power KW : 65.0

TEST BENCH REQUIREMENTS

Inlet line : 1.3

Test oil inlet

temp. *C : 40
Tolerance *C : + 2.0

Overflow valve : 1 419 922 198

Inlet press. bar : 1.5

Test nozzle holde

assembly : 0 681 343 009

Opening pressure

bar : 173.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

A congent man

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 2.55
Tolerance mm : + 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-3-4-2

Phasing : 0-90-180-270

Tolerance : + 0.50

Check

tolerance "NW : + 0.75

BASIC SETTING

Rated speed rpm : 980

Rack travel in mm: 11.60

Tolerance mm : + 0.05

Del. quantity cm3/1000 strokes : 78.5

Tolerance

cm3/1000 strokes : \leftarrow 0.5

Check tolerance

cm3/1000s. : +- 2.5

Spreed

Tolerance

cm3/1000 strokes : 3.0

Check tolerance +	tolerance degree : +- 4.0
cm3/1000s. : 7.0 +	-
Paradam dans (75	RATED SPEED
Rated speed rpm : 475	mode denoted and a 10 (0
Rack travel in mm: 7.20	rack travel mm : 10.60 Rated speed rpm : 1025
Tolerance mm : +- 0.10	Tolerance 1/min : + 5
Del. quantity	roterance mann
cm3/1000 strokes : 14.0	rack travel mm : 4.00
Tolerance	Rated speed rpm : 1085
cm3/1000 strokes : + 2.0 +	Tolerance 1/min : + 15
Check tolerance	
cm3/1000s. : +- 4.0	rack travel mm : 0.85
Spreed	Tolerance mm : + 0.55
Tolerance + cm3/1000 strokes : 4.5	Rated speed rpm : 1250
Check tolerance	rack travel mm : 4.00
cm3/1000s. : 7.0	Rated speed rpm : 1100
	, , , , , , , , , , , , , , , , , , ,
1	
(B) SETTING OF INJECTION PUMP	
WITH GOVERNOR +	LOW IDLE
†	•
	control lever
GUIDE SLEEVE POSITION	position degree : 77.0
T COLDE OFFICE LOOT FOR	tolerance degree : +- 4.0
Rated speed rpm : 800	totor and degree 4.0
	Setting point w/out bumper spring
Rack travel in mm: 0.50	
Tolerance mm : + 0.20	Rated speed rpm : 475
. +	rack travel mm : 6.70
governor spring	T13
pre-tension + click setting x : 4.75 +	Testing:
T	Rated speed rpm : 475
Ž.	rack travel mm : 7.20
FULL LOAD DELIVERY AT FULL LOAD STOP	Tolerance mm : + 0.10
+	
Rated speed rpm : 980	rack travel mm : 2.00
Aneroid pressure	Rated speed rpm : 590
hPa : 1000	
Del. quantity + cm3/1000 strokes : 78.5 +	TORQUE CONTROL
cm3/1000 strokes : 78.5	TORGOE CONTROL
cm3/1000 strokes : +- 0.5	Rated speed rpm : 980
Check tolerance	rack travel mm : 11.60
cm3/1000s. : +- 2.5	Tolerance mm : + 0.05
Spreed	
Tolerance	Rated speed rpm : 500
cm3/1000 strokes : 3.0	rack travel mm : 12.15
Check tolerance + cm3/1000s. : 7.0	Tolerance mm : +- 0.05
cm3/1000s. : 7.0	Rated speed rpm : 700
I	rack travel mm : 12.10
	Tolerance mm : +- 0.05
CONTROL LEVER +	
+	Rated speed rpm : 825
control lever	rack travel mm : 11.80
position degree : 101.0 +	Tolerance mm : +- 0.10

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm 500 Pressure hPa 1000 12,15 rack travel mm Tolerance mm : + - 0.05

MEASUREMENT

Pressure hPa Rated speed rpm 500 11.00 rack travel mm Tolerance mm : **←** 0.05

500 Rated speed rpm

310 Pressure hPa 11.30 rack travel mm : + 0.10Tolerance mm

400 Pressure hPa 11.60 rack travel mm Tolerance mm : + 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

1000 hPa 700 Rated speed rpm Del. quantity cm3/1000 strokes : 79.0

Tolerance

1.5 cm3/1000 strokes

Check tolerance

cm3/1000s. 3.5

Aneroid pressure

hPa 500 Rated speed rpm

Del. quantity

cm3/1000 strokes : 59.0

Tolerance

cm3/1000 strokes 0.5

Check tolerance

cm3/1000s. 2.5

BREAKAWAY

Rack travel in mm : 10.60 Rated speed rpm : 1025 Tolerance 1/min

STARTING FUEL DELIVERY

Rated speed rpm 100 rack travel mm 17.80 Tolerance mm : + 0.20Del. quantity cm3/1000 strokes : 125.0 Tolerance cm3/1000 strokes 7.5 Check tolerance cm3/1000s. : + - 10.0

LOW IDLE

Rated speed rpm 475 7.20 rack travel mm Tolerance mm 0.10 Del. quantity cm3/1000 strokes 14.0 Tolerance cm3/1000 strokes 2.0 Check tolerance cm3/1000s. 4.0 : +-Spreed Tolerance cm3/1000 strokes : 4.5 Check tolerance cm3/1000s. 7.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition

: 30.05.95

Test oil

: ISO 4113

Combination No. : 0 400 864 089

Injection pump

Pump designation : PES4A85D410/3RS2799

EP type number : 0 410 884 944

Governor

Governer design. : RSV325...1075A8C2253

: -3L

Governer no.

: 0 420 232 547

Cust. part No.

Customer-spec. information

Customer

: KHD

Motor

: BF4L913

Power KW

: 70.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C

Tolerance °C

2.0

Overflow valve : 1 417 413 000

Inlet press. bar :

1.5

Test nozzle holde

assembly

: 0 681 343 009

Opening pressure

bar

173.5

Tolerance bar

Test lines

: 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0 x length mm : 6በበ

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Firing order : 1-3-4-2

Phasing

: 0-90-180-270

Tolerance

: + - 0.50

: + - 0.75

Check

tolerance °NW

BASIC SETTING

Rated speed rpm : 1075

Rack travel in mm: 11.95 Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 80.0

Tolerance

cm3/1000 strokes : +- 0.5

Check tolerance

cm3/1000s.

: +- 2.5

Spreed

Tolerance

cm3/1000 strokes :

3.0

Check tolerance

cm3/1000s.

5.0

Rated speed rpm :

325

Rack travel in mm:

8.30

Tolerance mm : \leftarrow 0.20

Del. quantity

cm3/1000 strokes : 15.0

Tolerance cm3/1000 strokes : + 3.0 Check tolerance cm3/1000s. : + 5.0 Spreed Tolerance cm3/1000 strokes : 2.5 Check tolerance cm3/1000s. : 4.5	Rated speed rpm : 1165 Tolerance 1/min : + 15 rack travel mm : 1.00 Tolerance mm : + 0.70 Rated speed rpm : 1315
	LOW IDLE
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	control lever position degree : 68.0 tolerance degree : + 4.0
GUIDE SLEEVE POSITION	Testing:
Rated speed rpm : 800 Rack travel in mm : 0.50	Rated speed rpm : 325 rack travel mm : 8.30 Tolerance mm : + 0.10
Tolerance mm : +- 0.20 governor spring pre-tension click setting x : 4.00	rack travel mm : 2.00 Rated speed rpm : 380 Tolerance 1/min : + 30 Rated speed rpm : 100
	+
FULL LOAD DELIVERY AT FULL LOAD STOP	+ CRT mm min. : > 19.50
Rated speed rpm : 1075 Aneroid pressure	SET IDLE AUXILIARY SPRING
hPa : 1000 Del. quantity	Rated speed rpm : 100
cm3/1000 strokes : 80.0 Tolerance cm3/1000 strokes : +- 0.5	TORQUE CONTROL
Check tolerance cm3/1000s. : +- 2.5 Spreed	Rated speed rpm : 1075 rack travel mm : 11.95 Tolerance mm : +- 0.05
Tolerance cm3/1000 strokes : 3.0 Check tolerance cm3/1000s. : 5.0	Rated speed rpm : 500 rack travel mm : 12.45 Tolerance mm : +- 0.05
CONTROL LEVER	Rated speed rpm : 860 rack travel mm : 12.30 Tolerance mm : +- 0.10
control lever	<u> </u>
position degree : 99.0 tolerance degree : + 4.0	ANEROID/ALTITUDE COMPENSATOR TEST
RATED SPEED	SETTING
rack travel mm : 10.90 Rated speed rpm : 1120 Tolerance 1/min : +- 5	Rated speed rpm : 500 Pressure hPa : 1000 rack travel mm : 12.45
rack travel mm : 4.00	Tolerance mm : 12.45

MEASUREMENT

Pressure hPa : Rated speed rpm : 500
rack travel mm : 11.45
Tolerance mm : +- 0.05

Rated speed rpm : 500

Pressure hPa : 250 rack travel mm : 11.80 Tolerance mm : + 0.10

Pressure hPa : 330 rack travel mm : 12.05 Tolerance mm : + 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa : 1009 Rated speed rpm : 750 Del. quantity

cm3/1000 strokes : 80.5

Tolerance

cm3/1000 strokes : + 1.0

Check tolerance

cm3/1000s. : +- 3.5

Aneroid pressure

hPa : - S00

Del. quantity

cm3/1000 strokes : 58.0

Tolerance

cm3/1000 strokes : + 1.0

Check tolerance

cm3/1000s. : +- 3.0

BREAKAWAY

Rack travel in mm: 10.90
Rated speed rpm: 1120
Tolerance 1/min: +- 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 18.20
Tolerance mm : + 0.20
Del. quantity
cm3/1000 strokes : 120.0

Tolerance cm3/1000 strokes : +- 5.0 Check tolerance cm3/1000s. : +- 8.0

LOW IDLE

Rated speed rpm rack travel mm	:	325 8.30
Tolerance mm Del. quantity	: +-	0.20
cm3/1000 strokes	:	15.0
Tolerance cm3/1000 strokes	: +-	3.0
Check tolerance cm3/1000s.	: +-	5.0
Spreed	•	7.0
Tolerance cm3/1000 strokes	:	2.5
Check tolerance cm3/1000s.	:	4.5

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition

: 17.06.95

Test oil

: ISO 4113

Combination No. : 0 400 865 017

Injection pump

Pump designation : PES5A8DD410/3RS2526

EP type number : 0 410 885 004

Governor

Governer design. : RSV325...1400A8C540L

Governer no. : 0 420 232 311

Cust. part No.

Customer-spec. information

Customer

: KHD

Motor

: F5L912

Power KW

: 62.5

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C

40

Tolerance °C

2.0

Overflow valve

: 1 417 413 000

Inlet press. bar : 1.0

Test nozzle holde

assembly

: 0 681 343 009

Opening pressure

bar

173.5

Tolerance bar

: +- 1.5

Test lines

: 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0 x Length mm : ለበበ

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0

Tolerance bar : + 1.0

Firing order : 1-3-5-4-2

: 0-72-144-216-288 Phasing

Tolerance

: + 0.50

Check

tolerance "NW : + 0.75

BASIC SETTING

Rated speed rpm : 1380

Rack travel in mm: 11.55

: +- 0.05 Tolerance mm

Del. quantity

cm3/1000 strokes : 65.5

Tolerance

cm3/1000 strokes : + 0.5

Check tolerance

cm3/1000s.

: +-2.0

Spreed

Tolerance

cm3/1000 strokes :

2.0

Check tolerance

cm3/1000s.

3.5

Rated speed rpm : 325

Rack travel in mm :

8.10 Tolerance mm : +- 0.10

Del. quantity

cm3/1000 strokes : 9.0

Tolerance			+	Rated speed rpm	: 1470
cm3/1000 strokes	: +-	3.0	1	Tolerance 1/min	: +- 15
Check tolerance			1		
cm3/1000s.	: +	4.5	+	rack travel mm	: 1.00
Spreed			+	Tolerance min	: +- 0.70
Tolerance			+	Rated speed rpm	: 1650
cm3/1000 strokes	:	2.0	+	·	
Check tolerance			+		: 4.00
cm3/1000s.	:	3.0	+	Rated speed rpm	: 1520
			+		
			+		
(B) SETTING OF IN	MECTION	1 PUMP	+		····
WITH GOVERNOR			+	LOW IDLE	
			+		
			†		
CHIEF OF FOUR DOOR	TTAN		†	control lever	- (0.0
GUIDE SLEEVE POSI	ITON		†	position degree	
Dahad assaul ass		000	†	tolerance degree	: +- 4.0
Rated speed rpm	: 8	800	Ť	Satting point Way	t humaan canina
Rack travel in mm		0.45	Ī	Setting point w/ou	t bumper spring
Tolerance mm			T	Rated speed rpm	. 725
rocerance nan	• '-	0,33	I	rack travel mm	
governor spring			I	rack cravet mm	. 0.10
pre-tension			I	Testing:	
click setting x	•	5. <i>5</i> 0	1	resemg.	
orick occurring x	•	J.J0	1	Rated speed rpm	325
			- 1		· 7.60
FULL LOAD DELIVER	Y AT FU	ILL LOAD STOP	1		· + 0.10
TOLE COND DECATE		22 20/10 010/	1	TO COT GITTO TIME	
Rated speed rpm	: 13	80	1	rack travel mm	2.00
Aneroid pressure			1	Rated speed rpm	: 655
hPa	:	-	+		: ← 30
Del. quantity			1		
cm3/1000 strokes	:	65.5	+		
Tolerance			+	TORQUE CONTROL	
cm3/1000 strokes	: +	0.5	+		
Check tolerance			+	Rated speed rpm	: 1380
cm3/1000s.	; +-	2.0	+	rack travel mm	: 11.55
Spreed			+	Tolerance mm	: ← 0.05
Tolerance			+		
cm3/1000 strokes	:	2.0	+		500
Check tolerance		~ ~	†		: 12.75
cm3/1000s.	:	3.5	+	Tolerance mm	: ← 0.05
			†	Dahad asset was	
			Ť	Rated speed rpm	900 12.25
CONTROL LEVED			†	rack travel mm Tolerance mm	12.25
CONTROL LEVER			T	roterance mm	: +- 0.15
control lever			I		
position degree	. 1	16.0	I		
tolerance degree		4.0	I		
roterance degree	• •	⊤. ∪	I		
RATED SPEED			I		
NATED OF CED			I	BREAKAWAY	
rack travel mm	: 11	0.50	. <u> </u>	seriable that SPEST	
Rated speed rpm		25	1		
Tolerance 1/min		5	1	Rack travel in mm :	10.50
TO SOT GIVE TANKET	•		1	Rated speed rpm	1425
rack travel mm	: 4	4.00	1	Tolerance 1/min	+- 5
I GUN CI GYCL IIIII	•	,	1	Cocci di loc i / mili	

LOW IDLE

Rated speed rpm	:	325	
rack travel mm	:	8.10	
Tolerance mm	: +-	0.10	
Del. quantity	•		
cm3/1000 strokes		9.0	
	•	7.0	
Tolerance		7.0	
cm3/1000 strokes	: +	3.0	
Check tolerance			
cm3/1000S.	: +	4.5	
Spreed			
Tolerance			
cm3/1000 strokes		2.0	
	•	2.0	
Check tolerance			
cm3/1000S.	:	3.0	

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 31,10,84 Edition : ISO 4113 Test oil

Combination No. : 0 400 866 078

Injection pump

Pump designation : PES6A85D410/3RS2415

EP type number : 0 410 886 915

Governor

Governer design. : RSV325...900A7C720L

: 0 420 232 339 Governer no.

Cust. part No.

Customer-spec. information

Customer : KHD

: BF6L913 Motor

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C 40 Tolerance °C 2.0

Overflow valve : 1 417 413 000

Inlet press. bar : 1.0

Test nozzle holde

: 0 681 343 009 assembly

Opening pressure

173.5 bar : +- 1.5 Tolerance bar

: 1 680 750 014 Test lines

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : + 0.50

Check

tolerance °NW : + 0.75

BASIC SETTING

Rated speed rpm 900

Rack travel in mm: 11.85 : +- 0.05 Tolerance mm

Del. quantity cm3/1000 strokes : 68.5

Tolerance

cm3/1000 strokes : +-0.5

Check tolerance cm3/1000s. : +-2.5

Spreed

Tolerance

cm3/1000 strokes : 3.0

Check tolerance

cm3/1000s. 4.5

Rated speed rpm : 325

Rack travel in mm : 8.10

Tolerance mm : +- 0.20

Del. quantity cm3/1000 strokes : 12.0

Tolerance
<pre>cm3/1000 strokes : + 3.0 Check tolerance</pre>
cm3/1000s. : +- 5.0
Spreed Tolerance
cm3/1000 strokes : 2.0
Check tolerance cm3/1000s. : 4.0
(B) SETTING OF INJECTION PUMP
WITH GOVERNOR
FULL LOAD DELIVERY AT FULL LOAD STOP
Rated speed rpm : 900
Aneroid pressure hPa : -
Del. quantity cm3/1000 strokes : 68.5
Tolerance
Check tolerance
cm3/1000S. : + 2.5 Spreed
Tolerance
cm3/1000 strokes : 3.0 Check tolerance
cm3/1000s. : 4.5
RATED SPEED
rack travel mm : 10.80 Rated speed rpm : 945
Rated speed rpm : 945 Tolerance 1/min : + 5
rack travel mm : 0.85
Tolerance mm : + 0.55
Rated speed rpm : 1100
rack travel mm : 4.00 Rated speed rpm : 995
Nated Speed (pin . 775
LOW IDLE
Setting point w/out bumper spring
Rated speed rpm : 325 rack travel mm : 7.60
Testing:
Rated speed rpm : 325
rack travel mm : 8.10

TORQUE CONTROL					
Rated speed rpm rack travel mm Tolerance mm	:		900 11.85 0.05		
Rated speed rpm rack travel mm Tolerance mm	:	+-	600 12.35 0.05	5	
Rated speed rpm rack travel mm Tolerance mm	•		800 12.15 0.15		
BREAKAWAY					
Rack travel in mm Rated speed rpm Folerance 1/min	•	+	10.80 945 5		
Rated speed rpm Folerance 1/min	•	+-	945		
Rated speed rpm Folerance 1/min OW IDLE Rated speed rpm rack travel mm Folerance mm	•	+-	945)	
Rated speed rpm Folerance 1/min LOW IDLE Rated speed rpm Pack travel mm Folerance mm Del. quantity Em3/1000 strokes	•	+	945 5 325 8.10		
ated speed rpm olerance 1/min OW IDLE ated speed rpm ack travel mm olerance mm el. quantity m3/1000 strokes olerance m3/1000 strokes	:	+	325 8.10 0.20		
Rated speed rpm Folerance 1/min LOW IDLE Rated speed rpm Folerance mm Folerance mm Folerance cm3/1000 strokes Folerance Foler		+	325 8.10 0.20 12.0)))	
Rated speed rpm Folerance 1/min LOW IDLE Rated speed rpm Folerance mm Folerance mm Folerance mm Folerance cm3/1000 strokes Folerance cm3/1000 strokes Check tolerance cm3/1000s. Epreed Folerance		+	325 8.10 0.20 12.0 3.0)	
Rated speed rpm Folerance 1/min LOW IDLE Rated speed rpm Folerance mm		+	325 8.10 0.20 12.0)	

Tolerance mm : + 0.10

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 29,05,95 : ISO 4113

Combination No. : 0 400 866 080

Injection pump

Pump designation : PES6A85D410/3RS2415

EP type number : 0 410 886 915

Governor

Governer design. : RSV325...1400A8C707

: -4L

Governer no.

: 0 420 232 461

Cust. part No.

Customer-spec. information

: KHD

Customer

Motor : BF6L913

TEST BENCH REQUIREMENTS

Inlet line

: 3.1

Test oil inlet

temp. °C

Tolerance °C

2.0

Overflow valve

: 1 417 413 000

Inlet press. bar :

1.0

Test nozzle holde

assemb

: 0 681 343 009

Opening pressure

173.5

Tolerance bar

1.5

Test lines

: 1 680 750 014

Outside diameter :

6.0

x inside diameter : :

2.0

x length mm

600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Firing order

: 1-5-3-6-2-

Phasing

: 0-60-120-180-240

: -300

Tolerance

: ← 0.50

Check

tolerance °NW

: + 0.75

BASIC SETTING

: 1400 Rated speed rpm

Rack travel in mm:

10.85

Tolerance mm

: + 0.05

Del. quantity

cm3/1000 strokes :

76.5

Tolerance

cm3/1000 strokes

: +-0.5

Check tolerance

cm3/1000s.

: +--2.5

Spreed

Tolerance

cm3/1000 strokes :

3.0

Check tolerance

cm3/1000s.

4.5

Rated speed rom :

325

Rack travel in mm:

8.00

Tolerance mm : \leftarrow 0.20

Del. quantity	+
cm3/1000 strokes : 12.5	+ rack travel mm : 4.00
Tolerance	+ Rated speed rpm : 1485
cm3/1000 strokes : $+$ 3.0	+ Tolerance 1/min : + 15
Check tolerance	+
cm3/1000s. : +- 5.0	+ rack travel mm : 0.85
Spreed	+ Tolerance mm : + 0.55
Tolerance	Rated speed rpm : 1600
cm3/1000 strokes : 2.0	1 00
Check tolerance cm3/1000s. : 4.0	+ rack travel mm : 4.00
CM5/10005. : 4.0	Rated speed rpm : 1520
	I
(B) SETTING OF INJECTION PUMP	
WITH GOVERNOR	LOW IDLE
WITH GOACHHOIL	1 2011 1022
	1
	- control lever
GUIDE SLEEVE POSITION	position degree : 68.0
	+ tolerance degree : + 4.0
Rated speed rpm : 800	+
•	+ Setting point w/out bumper spring
Rack travel in mm : 0.50	+
Tolerance mm : + 0.20	+ Rated speed rpm : 325
	+ rack travel mm : 7.50
governor spring	
pre-tension	† Testing:
click setting x : 5.25	† - · · · · · · · · · · · · · · · · · ·
	+ Rated speed rpm : 325
FULL LOAD OF TUEDY AT FULL LOAD CTOD	+ rack travel mm : 8.00
FULL LOAD DELIVERY AT FULL LOAD STOP	+ Tolerance mm : +- 0.10
Rated speed rpm : 1400	+ rack travel mm : 2.00
Rated speed rpm : 1400 Aneroid pressure	
hPa : 700	+ Rated speed rpm : 630 + Tolerance 1/min : +- 30
Del. quantity	I local differential . 4- 50
cm3/1000 strokes : 76.5	Rated speed rpm : 100
Tolerance	The cod speed 1 pm . 100
cm3/1000 strokes : +- 0.5	+ CRT mm min. : > 19.50
Check tolerance	
cm3/1000s. : +- 2.5	
Spreed	+ TORQUE CONTROL
Tolerance	+
cm3/1000 strokes : 3.0	+ Dimension a mm : 1.20
Check tolerance	+ Rated speed rpm : 1400
cm3/1000s. : 4.5	+ rack travel mm : 10.85
	† Tolerance mm : + 0.05
	†
	+ Rated speed rpm : 500
CONTROL LEVER	+ rack travel mm : 12.05
endered Javen	+ Tolerance mm : +- 0.05
control lever	Rated speed rpm : 1040
position degree : 119.0 tolerance degree : +- 4.0	Rated speed rpm : 1040 rack travel mm : 11.50
tolerance degree : +- 4.0	+ Tolerance mm : + 0.10
RATED SPEED	T TOLER GIVE HAIT . TO U. TO
MAILU DELLU	1
rack travel mm : 9.80	1
Rated speed rom : 1445	
Rated speed rpm : 1445 Tolerance 1/min : +- 5	1

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm : 500
Pressure hPa : 700
rack travel mm : 12.05
Tolerance mm : +- 0.05

MEASUREMENT

Pressure hPa : Rated speed rpm : 500
rack travel mm : 10.25
Tolerance mm : + 0.05

Rated speed rpm : 500

Pressure hPa : 95 rack travel mm : 10.70 Tolerance mm : + 0.10

Pressure hPa : 360 rack travel mm : 11.75 Tolerance mm : + 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa : Rated speed rpm : 500
Del. quantity

cm3/1000 strokes :

Tolerance cm3/1000 strokes : + 1.5

45.5

Check tolerance

cm3/1000s. : + 3.5

BREAKAWAY

Rack travel in mm: 9.80
Rated speed rpm: 1445
Tolerance 1/min: +- 5

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 17.20 Tolerance mm : + 0.10

Del. quantity

cm3/1000 strokes : 110.0 Tolerance

cm3/1000 strokes : +- 5.0

Check tolerance

cm3/1000s. : + 8.0

LOW IDLE

Rated speed rpm 325 rack travel mm 8.00 Tolerance mm 0.20 Del. quantity cm3/1000 strokes : 12.5 Tolerance cm3/1000 strokes : +-3.0 Check tolerance cm3/1000s. 5.0 Spreed Tolerance

cm3/1000 strokes : 2.0 Check tolerance cm3/1000s. : 4.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 23.08.95 : ISO 4113

Combination No. : 0 400 866 152

Injection pump

Pump designation : PES6A85D410/3RS2783

EP type number : 0 410 886 893

Governor

Governer design. : RSV325...1250A5C2239

Governer no.

: 0 420 232 526

Cust. part No. :

Customer-spec. information Customer : KHD

Motor

: F6L912F

Power KW

: 82.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C

Tolerance °C

: +- 2.0

Overflow valve : 1 417 413 000

Inlet press. bar : 1.5

Test nozzle holde

assembly

: 0 681 343 009

Opening pressure

bar

173.5

Tolerance bar

: + 1.5

Test Lines : 1 680 750 014

Outside diameter :

6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar: 26.0 Tolerance bar : + 1.0

Firing order

: 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance

: + 0.50

Check

tolerance °NW : + 0.75

BASIC SETTING

Rated speed rpm : 1235

Rack travel in mm: 11.85

Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 70.0

Tolerance

cm3/1000 strokes : +- 0.5

Check tolerance

cm3/1000s. : +- 2.5

Spreed

Tolerance

cm3/1000 strokes :

3.0

Check tolerance

cm3/1000s.

5.0

Rated speed rpm :

325

Rack travel in mm : 6.00

Tolerance mm : \leftarrow 0.20

Del. quantity cm3/1000 strokes : 11.0 Tolerance cm3/1000 strokes : + 3.0 Check tolerance cm3/1000s. : + 5.0 Spreed Tolerance cm3/1000 strokes : 2.5 Check tolerance cm3/1000s. : 4.5	rack travel mm : 4.00 Rated speed rpm : 1345 Tolerance 1/min : + 15 rack travel mm : 0.85 Tolerance mm : + 0.55 Rated speed rpm : 1510 rack travel mm : 4.00 Rated speed rpm : 1360
WITH GOVERNOR	LOW IDLE
GUIDE SLEEVE POSITION Rated speed rpm : 800	control lever position degree : 73.0 tolerance degree : + 4.0
Rack travel in mm: 0.50	Setting point w/out bumper spring
Tolerance mm : + 0.20	Rated speed rpm : 325 6.00
governor spring pre-tension click setting x : 4.50	Testing: Rated speed rpm : 325 rack travel mm : 5.50
FULL LOAD DELIVERY AT FULL LOAD STOP	Tolerance mm : + 0.10
Rated speed rpm : 1235 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 70.0	rack travel mm : 2.00 Rated speed rpm : 450 Tolerance 1/min : + 30 Rated speed rpm : 100
Tolerance cm3/1000 strokes : +- 0.5	CRT mm min. : > 19.50
Check tolerance cm3/1000s. : + 2.5 Spreed	TORQUE CONTROL
Tolerance cm3/1000 strokes : 3.0 Check tolerance cm3/1000s. : 5.0	Rated speed rpm : 1235 rack travel mm : 11.85 Tolerance mm : + 0.05
+	Rated speed rpm : 750 rack travel mm : 11.90
CONTROL LEVER	Tolerance mm : + 0.10
control lever position degree : 107.0 tolerance degree : + 4.0	
RATED SPEED	FUEL DELIVERY CHARACTERISTICS
rack travel mm : 10.80 Rated speed rpm : 1280 Tolerance 1/min : + 5	Aneroid pressure hPa : - Rated speed rpm : 750

Del. quantity cm3/1000 strokes : 56.5 Tolerance cm3/1000 strokes 1.0 Check tolerance cm3/1000s. 3.5 Aneroid pressure 1000 Rated speed rpm Del. quantity 65.0 cm3/1000 strokes : Tolerance cm3/1000 strokes 1.0 Check tolerance cm3/1000s. 3.5 BREAKAWAY Rack travel in mm: 10.80 Rated speed rpm : 1280 Tolerance 1/min STARTING FUEL DELIVERY Rated speed rpm 100 rack travel mm 20.25 Tolerance mm : + 0.75Del. quantity cm3/1000 strokes : 110.0 Tolerance cm3/1000 strokes 5.0 Check tolerance cm3/1000s. 8.0 LOW IDLE Rated speed rpm 325 rack travel mm 6.00 0.20 Tolerance mm Del. quantity cm3/1000 strokes : 11.0 Tolerance cm3/1000 strokes 3.0 Check tolerance cm3/1000s. 5.0 Spreed Tolerance cm3/1000 strokes 2.5 Check tolerance cm3/1000s. 4.5

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 28.08.95 Edition Test oil : ISO 4113

Combination No. : 0 400 866 169

Injection pump

Pump designation : PES6A85D410/3RS2611

EP type number : 0 410 886 902

Governor

Governer design. : RSV325...1250A2C540

: -3L

Governer no. : 0 420 232 565

Cust. part No. :

Customer-spec. information Customer : KHD : F6L913 Motor Power KW : 89.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C Tolerance °C 2.0

Overflow valve : 1 417 413 000

Inlet press. bar : 1.5

Test nozzle holde

: 0 681 343 009 assembly

Opening pressure

173.5 bar : + 1.5 Tolerance bar

: 1 680 750 014 Test lines

Outside diameter : 6.0 x inside diameter: 2.0 600

x length mm :

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : + 0.50

Check

tolerance °NW : +- 0.75

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm: 10.55 Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 63.0

Tolerance

cm3/1000 strokes : \leftarrow 0.5

Check tolerance

cm3/1000s. : +- 2.5

Spreed

Tolerance

cm3/1000 strokes : 3.0

Check tolerance

cm3/1000s. 5.0

Rated speed rpm : 325

7.00 Rack travel in mm :

Tolerance mm : +- 0.20

Del. quantity	
cm3/1000 strokes : 15.0	- rack travel mm : 4.00 - Rated speed rpm : 1365
cm3/1000 strokes : +- 3.0	Tolerance 1/min : +- 15
Check tolerance	-
cm3/1000s. : +- 5.0	- rack travel mm : 0.85
Spreed	- Tolerance mm : + 0.55
Tolerance cm3/1000 strokes : 2.5	- Rated speed rpm : 1525
cm3/1000 strokes : 2.5 Check tolerance	
cm3/1000s. : 4.5	
+	- LOW IDLE
(D) OFFTIND AT THE FOTON DURING	_
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	- - control lever
MILLI GOATUAOV	- position degree : 74.0
-	- tolerance degree : +- 4.0
	_
GUIDE SLEEVE POSITION	- Testing: -
Rated speed rpm : 800	- Rated speed rpm : 325
0.50	rack travel mm : 7.00
Rack travel in mm : 0.50 + Tolerance mm : + 0.20 +	- Tolerance mm : +- 0.10
Total arise min	- rack travel mm : 2.00
governor spring	- Rated speed rpm : 440
pre-tension +	- Tolerance 1/min : +- 30
click setting $x : 5.50$	- - Rated speed rpm : 100
	- Rated speed rpm : 100
FULL LOAD DELIVERY AT FULL LOAD STOP	- CRT mm min. :> 19.50
Rated speed rpm : 1250	SET IDLE AUXILIARY SPRING
Aneroid pressure	•
hPa : - +	Rated speed rpm : 100
Del. quantity + cm3/1000 strokes : 63.0 +	
Tolerance	- TORQUE CONTROL
cm3/1000 strokes : + 0.5	•
Check tolerance	Rated speed rpm : 1250
cm3/1000s. : +- 2.5 +	rack travel mm : 10.55
Spreed + Tolerance +	Tolerance mm : +- 0.05
cm3/1000 strokes : 3.0	Rated speed rpm : 500
Check tolerance	rack travel mm : 11.15
cm3/1000s. : 5.0	Tolerance mm : +- 0.05
†	Rated speed rpm : 1000
	rack travel mm : 10.80
CONTROL LEVER	Tolerance mm : + 0.10
+	
control lever	
position degree : 102.0 tolerance degree : + 4.0	
total ance degree 7.0	
RATED SPEED	FUEL DELIVERY CHARACTERISTICS
rack travel mm : 9.50	Aneroid pressure
Rated speed rpm : 1295	hPa : -
Tolerance 1/min : +- 5 +	Rated speed rpm : 800

Del. quantity	
~~~ ( / 7 / W	: 55.0
cm3/1000 strokes Tolerance	
cm3/1000 strokes Check tolerance	: + 1.0
cm3/1000s.	<b>:</b> ← 3.5
Spreed Tolerance	
cm3/1000 strokes	: 2.5
Check tolerance cm3/1000s.	: 4.5
BREAKAWAY	
Rack travel in mm	9 50
Rated speed rpm	: 1295
Tolerance 1/min	: +- 5
STARTING FUEL DEL	.IVERY
Rated speed rpm	: 100
rack travel mm Tolerance mm	: 17.80 : +- 0.20
Del. quantity	1 - 1
cm3/1000 strokes Tolerance	: 120.0
cm3/1000 strokes	: <del>+</del> 5.0
Check tolerance cm3/1000s.	: +- 8.0
LOW IDLE	
Rated speed rpm	: 325
rack travel mm Tolerance mm	: 7.00 : + 0.20
Del. quantity	
cm3/1000 strokes Tolerance	: 15.0
cm3/1000 strokes	: + 3.0
Check tolerance cm3/1000s.	: +- 5.0
Spreed	
Tolerance cm3/1000 strokes	: 2.5
Check tolerance	: 4.5
cm3/1000s.	

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 30.05.95 Edition : ISO 4113 Test oil

Combination No. : 0 400 866 173

Injection pump

Pump designation : PES6A85D410/3RS2611

EP type number : 0 410 886 902

Governor

Governer design. : RSV325...1200A0C2148

: -1L

: 0 420 232 567 Governer no.

Cust. part No.

Customer-spec. information

Customer

: KHD

Motor

: F6L913 H

Power KW

: 85.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C

40 Tolerance °C 2.0

: 1 419 992 198 Overflow valve

1.5 Inlet press. bar :

Test nozzle holde

: 0 681 343 009 assembly

Opening pressure

173.5 bar

Tolerance bar : +- 1.5

: 1 680 750 014 Test lines

Outside diameter : 6.0

2.0 x inside diameter : x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar: 26.0 Tolerance bar : +- 1.0

: 1-5- 3- 6- 2-Firing order

Phasing : 0-60-120-180-240

: -300

Tolerance : **←** 0.50

Check

tolerance °NW : + - 0.75

BASIC SETTING

Rated speed rpm 1200

Rack travel in mm: 10.45

: + 0.05Tolerance mm

Del. quantity

cm3/1000 strokes : 62.0

Tolerance

cm3/1000 strokes 0.5

Check tolerance

cm3/1000s. 2.5 : +--

Spreed Tolerance

cm3/1000 strokes : 3.0

Check tolerance

cm3/1000s. 5.0

Rated speed rpm : 325

Rack travel in mm : 8.50

Tolerance mm : + 0.20

Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance	: + 3.0 : + 5.0	rack travel mm : 4.00 Rated speed rpm : 1310 Tolerance 1/min : +- 15  rack travel mm : 0.85 Tolerance mm : +- 0.55 Rated speed rpm : 1460
cm3/1000 strokes Check tolerance	+	
cm3/1000s.	: 4.5	LOW IDLE
(B) SETTING OF IN WITH GOVERNOR	JECTION PUMP	control lever position degree : 76.0 tolerance degree : + 4.0
GUIDE SLEEVE POSI	TION	Testing:
Rated speed rpm	+	Rated speed rpm : 325 rack travel mm : 8.50 Tolerance mm : +- 0.10
Rack travel in mm Tolerance mm		
governor spring pre-tension	‡	rack travel mm : 2.00 Rated speed rpm : 470 Tolerance 1/min : +- 30
click setting x	: 4.00	SET IDLE AUXILIARY SPRING
FULL LOAD DELIVER	Y AT FULL LOAD STOP	Rated speed rpm : 30
Rated speed rpm Aneroid pressure hPa		TORQUE CONTROL
Del. quantity cm3/1000 strokes Tolerance	+	Rated speed rpm : 1200 rack travel mm : 10.45 Tolerance mm : + 0.05
cm3/1000 strokes Check tolerance	+	Rated speed rpm : 500
cm3/1000s. Spreed Tolerance	: + 2.5	rack travel mm : 11.10 Tolerance mm : +- 0.10
cm3/1000 strokes Check tolerance cm3/1000s.	: 3.0 : 5.0	Rated speed rpm : 800 rack travel mm : 11.10 Tolerance mm : + 0.10
CONTROL LEVER		Rated speed rpm : 1050 rack travel mm : 10.80 Tolerance mm : + 0.10
control lever position degree tolerance degree	: 104.0 : + 4.0	
RATED SPEED	<u> </u>	FUEL DELIVERY CHARACTERISTICS
rack travel mm Rated speed rpm Tolerance 1/min	: 9.40 : 1245 : + 5	Aneroid pressure hPa : - Rated speed rpm : 800

Del. quantity cm3/1000 strokes : 55.0 Tolerance cm3/1000 strokes 1.0 Check tolerance cm3/1000s. 3.5 Aneroid pressure hPa Rated speed rpm 1050 Del. quantity cm3/1000 strokes 60.0 Tolerance cm3/1000 strokes 1.0 Check tolerance cm3/1000s. 3.5 BREAKAWAY Rack travel in mm: 9.40 Rated speed rpm 1245 Tolerance 1/min STARTING FUEL DELIVERY Rated speed rpm 100 rack travel mm 17.80 Tolerance mm : +- 0.20 Del. quantity cm3/1000 strokes 120.0 Tolerance 5.0 cm3/1000 strokes Check tolerance cm3/1000s. 8.0 LOW IDLE 325 Rated speed rpm 8.50 rack travel mm Tolerance mm 0.20 Del. quantity 11.0 cm3/1000 strokes Tolerance cm3/1000 strokes 3.0 Check tolerance cm3/1000s. 5.0 Spreed Tolerance 2.5 cm3/1000 strokes Check tolerance cm3/1000s. 4.5

# BOSCH INJ. PUMP TEST SPECIFICATIONS Note remarks Refer to Service Info for test and adjustment instructions. See microcard(s) W400/... : 04.05.95 Edition Test oil : ISO 4113 Combination No. : 0 400 874 253 Injection pump Pump designation : PES4A85D41D/3RS2799 : -2 EP type number : 0 410 884 941 Governor Governer design. : RSV325...1150A8C2239 : -61 : 0 420 232 582 Governer no. Cust. part No. Customer-spec. information Customer : BF4L913 Motor Power KW : 70.0 TEST BENCH REQUIREMENTS Inlet line : 3.1 Test oil inlet temp. °C 40 Tolerance °C 2.0 Overflow valve : 1 419 992 198 Inlet press. bar : 1.5 Test nozzle holde : 0 681 343 009 assembly Opening pressure 173.5

: +- 1.5

Test Lines : 1 680 750 014

x inside diameter: 2.0 x length mm : 600 **REMARKS** (A) INJECTION PUMP SETTING VALUES Set equal delivery quant. per values _____ BEGINNING OF DELIVERY Test pressure bar : 26.0 Tolerance bar : + 1.0 : 1-3-4-2 Firing order Phasing : 0-90-180-270 Tolerance : +- 0.50 Check tolerance °NW : **←** 0.75 BASIC SETTING Rated speed rpm : 1050 Rack travel in mm: 11.55 Tolerance mm : +- 0.05 Del. quantity cm3/1000 strokes : 80.0 Tolerance cm3/1000 strokes :  $\leftarrow$  0.5 Check tolerance cm3/1000s. : +-2.5 Spreed Tolerance cm3/1000 strokes : 3.0 Check tolerance cm3/1000s. 5.0 Rated speed rpm : 325 Rack travel in mm : 7.60 Tolerance mm: +-0.10Del. quantity cm3/1000 strokes :

Outside diameter : 6.0

Tolerance bar

	•
Tolerance	+ Rated speed rpm : 1135
cm3/1000  strokes : + 3.0	+ Tolerance 1/min : +- 15
Check tolerance	
cm3/1000s. : +- 5.0	rack travel mm : 0.85
Spreed	Tolerance mm : + 0.55
Tolerance	+ Rated speed rpm : 1330
cm3/1000 strokes : 2.5	
Check tolerance	+ rack travel mm : 4.00
cm3/1000s. : 4.5	+ Rated speed rpm : 1160
	+
	+
(B) SETTING OF INJECTION PUMP	
WITH GOVERNOR	+ LOW IDLE
WITH GOSCILLON	1 CON TOLL
	T control town
	+ control lever
GUIDE SLEEVE POSITION	+ position degree : 70.0
	+ tolerance degree : + 4.0
Rated speed rpm : 800	+
	+ Setting point w/out bumper spring
Rack travel in mm : 0.50	+
Tolerance mm : + 0.20	Rated speed rpm : 325
TO COT CITIES INTO	+ rack travel mm : 7.10
	T rack cravet time . T. to
governor spring	Total total
pre-tension	+ Testing:
click setting x : 4.20	†
	+ Rated speed rpm : 325
	+ rack travel mm : 7.60
FULL LOAD DELIVERY AT FULL LOAD STOP	+ Tolerance mm : + 0.10
Rated speed rpm : 1050	+ rack travel mm : 2.00
Aneroid pressure	+ Rated speed rpm : 465
hPa : -	Tolerance 1/min : + 30
· •	T roterance minima. 42 30
Del. quantity	100
cm3/1000 strokes : 80.0	+ Rated speed rpm : 100
Tolerance	+
cm3/1000 strokes : + 0.5	+ CRT mm min. : > 19.50
Check tolerance	+
cm3/1000s. : + 2.5	
Spreed	+ TORQUE CONTROL
Tolerance	4
cm3/1000 strokes : 3.0	+ Rated speed rpm : 1050
Check tolerance	rack travel mm : 11.55
cm3/1000s. : 5.0	+ Tolerance mm : + 0.05
CIRD / 18003 J. 8	Total arice min
	T Poted aread non a 270
	+ Rated speed rpm : 730
	+ rack travel mm : 12.15
CONTROL LEVER	+ Tolerance mm : +- 0.05
	+
control lever	+ Rated speed rpm : 885
position degree : 101.0	+ rack travel mm : 11.80
tolerance degree : +- 4.0	+ Tolerance mm : + 0.10
en en milan andlina, i	The state of the s
DATEN COCEN	T
RATED SPEED	T
	T
rack travel mm : 10.50	†
Rated speed rpm : 1095	
Tolerance 1/min : + 5	+ FUEL DELIVERY CHARACTERISTICS
	+
rack travel mm : 4.00	+
The state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the s	•

Aneroid pressure

hPa Rated speed rom 730

Del. quantity cm3/1000 strokes : 0.08

Tolerance

cm3/1000 strokes : +-1.0

Check tolerance

cm3/1000s. 3.5

## **BREAKAWAY**

Rack travel in mm : 10.50 Rated speed rom Tolerance 1/min

## STARTING FUEL DELIVERY

100 Rated speed rpm 17.80 rack travel mm

Tolerance mm : + 0.20

Del. quantity

cm3/1000 strokes 125.0

Tolerance

cm3/1000 strokes 5.0

Check tolerance

cm3/1000s. : +-8.0

## LOW IDLE

325 Rated speed rpm rack travel mm 7.60

Tolerance mm 0.10

Del quantity cm3/1000 strokes 15.0

Tolerance

cm3/1000 strokes 3.0

Check tolerance

5.0 cm3/1000s.

Spreed

Tolerance cm3/1000 strokes : 2.5

Check tolerance

cm3/1000s. 4.5

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 29.05.95 Test oil : ISO 4113

Combination No. : 0 400 876 274

Injection pump

Pump designation : PES6A95D410RS2471 EP type number : 0 410 896 952

Governor

Governer design. : RSV325...1150A8C707

: -6L

Governer no. : 0 420 232 532

Cust. part No.

Customer—spec. information Customer : KHD

Motor : BF6L913C Power KW : 132.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40 Tolerance °C : + 2.0

Overflow valve : 1 417 413 000

Inlet press. bar : 1.5

Test nozzle holde

assembly : 0 681 343 009

Opening pressure

bar : 173.5 Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

#### REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

## BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance :  $\leftarrow$  0.50

Check

tolerance °NW : + 0.75

## BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm : 11.85
Tolerance mm : + 0.05

Del. quantity cm3/1000 strokes : 109.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s. : +- 3.0

Spreed

Tolerance

cm3/1000 strokes : 3.5

Check tolerance

cm3/1000s. : 6.0

Rated speed rpm : 325

Rack travel in mm: 7.30

Tolerance mm :  $\leftarrow$  0.20

Del. quantity	+
cm3/1000 strokes : 12.0	+ rack travel mm : 0.85
Tolerance	+ Tolerance mm : +- 0.55
cm3/1000 strokes : + 3.0	+ Rated speed rpm : 1400
Check tolerance	+
cm3/1000s. : + 5.5	rack travel mm : 4.00
Spreed	Rated speed rpm : 1300
Tolerance	
cm3/1000 strokes : 3.5	1
Check tolerance	
cm3/1000s. : 5.5	LOW IDLE
· 3.3	Lon 1000
	$\mathbf{I}$
(B) SETTING OF INJECTION PUMP	control lever
WITH GOVERNOR	position degree : 71.0
WITH GOVERNOON	tolerance degree : + 4.0
	T total ance degree . 1 4.0
	Setting point w/out bumper spring
GUIDE SLEEVE POSITION	T secting point wout bumper spring
GOIDE SPEECE LOSILION	Rated speed rpm : 325
Data and and and a 200	
Rated speed rpm : 800	rack travel mm : 6.80
Deal dravel in mr. a. 0.50	Tanking
Rack travel in mm: 0.50	Testing:
Tolerance mm : + 0.20	725
•	Rated speed rpm : 325
	rack travel mm : 7.30
FULL LOAD DELIVERY AT FULL LOAD STOP	Tolerance mm : + 0.10
- Adre	†
Rated speed rpm : 1150	rack travel mm : 2.00
Aneroid pressure	Rated speed rpm : 615
hPa : 700 -	Tolerance 1/min : +- 30
Del. quantity	+
cm3/1000 strokes : 109.0	Rated speed rpm : 100
Tolerance -	+
cm3/1000 strokes : +- 1.0	+ CRT mm min. : > 19.50
Check tolerance -	+
cm3/1000s. : + 3.0	
Spreed -	TORQUE CONTROL
Tolerance	+
cm3/1000 strokes : 3.5	Rated speed rpm : 1150
Check tolerance	rack travel mm : 11.85
cm3/1000s. : 6.0 -	Tolerance mm : + 0.05
-	1
-	Rated speed rpm : 500
	rack travel mm : 11.90
CONTROL LEVER -	Tolerance mm : + 0.10
-	
control lever	
position degree : 106.0	ANEROID/ALTITUDE
tolerance degree : +- 4.0	COMPENSATOR TEST
total unite days of the	
RATED SPEED	
MAILE OF EED	SETTING
rack travel mm : 10.80	OET LEITO
Rated speed rpm : 1195	Rated speed rpm : 500
Tolerance 1/min : +- 5	Preceive hPa • 700
TOLERance Minnt . The J	Pressure hPa : 700 rack travel mm : 11.85
rack travel mm : 4.00	
	Tolerance mm : +- 0.05
Rated speed rpm : 1250 -	MEACUDEMENT
Tolerance 1/min : + 15	HEASUREMENT TO THE MEASUREMENT

Pressure hPa Rated speed rpm rack travel mm Tolerance mm	500 9.95 + 0.05
Rated speed rpm	: 500
Pressure hPa rack travel mm Tolerance mm	: 93 : 10.20 : + 0.10
Pressure hPa rack travel mm Tolerance mm	: 373 : 11.55 : + 0.05
FUEL DELIVERY CHA	ARACTERISTICS
Aneroid pressure hPa Rated speed rpm	: 700 : 850
Del. quantity cm3/1000 strokes	: 105.0
Tolerance cm3/1000 strokes	: + 1.5
Check tolerance cm3/1000s.	: + 4.0
Spreed Check tolerance cm3/1000s.	: 7.0
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes	: - : 500 : 63.0
Tolerance cm3/1000 strokes	
Check tolerance cm3/1000s.	: + 3.0
BREAKAWAY	
Rack travel in mm Rated speed rpm Tolerance 1/min	: 10.80 : 1195 : +- 5
STARTING FUEL DEL	IVERY
Rated speed rpm rack travel mm	: 100 : 15.70 : +- 0.20

: +- 0.20

Del. quantity cm3/1000 strokes : 125.0 Tolerance cm3/1000 strokes : +-5.0 Check tolerance cm3/1000s. 8.0 LOW IDLE 325 Rated speed rpm 7.30 rack travel mm Tolerance mm 0.20 Del. quantity cm3/1000 strokes : 12.0 Tolerance cm3/1000 strokes 3.0 Check tolerance cm3/1000s. 5.5 Spreed Tolerance cm3/1000 strokes : 3.5 Check tolerance cm3/1000s. 5.5

End of test specification sheet

Tolerance mm

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 14,06,95 : ISO 4113

Combination No. : 0 400 876 275

Injection pump

Pump designation : PES6A95D41DRS2471 EP type number : 0 410 896 952

Governor

Governer design. : RSV325...1150A8C674

: -3L

Governer no.

: 0 420 232 543

Cust. part No.

Customer-spec. information

Customer

: KHD

Motor

: BF6L913C

Power KW

: 132.0

TEST BENCH REQUIREMENTS

Inlet line

: 3.1

Test oil inlet

temp. °C

Tolerance °C

2.0

Overflow valve

: 1 417 413 000

Inlet press. bar :

1.5

Test nozzle holde

assembly

: 0 681 343 009

Opening pressure

bar

173.5

Tolerance bar

Test Lines

: 1 680 750 014

Outside diameter :

6.0

x inside diameter: 2.0 x length mm :

600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar: 26.0 Tolerance bar : +- 1.0

Firing order

: 1-5-3-6-2-

Phasing

: 0-60-120-180-240

: -300

Tolerance

: + - 0.50

Check

tolerance °NW

: +- 0.75

1150

BASIC SETTING

Rated speed rpm

11.85 Rack travel in mm: Tolerance mm : +- 0.05

Del. quantity cm3/1000 strokes :

109.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s.

3.0

Spreed

Tolerance

cm3/1000 strokes :

3.0

Check tolerance

cm3/1000s.

6.0

Rated speed rpm :

325

Rack travel in mm :

7.30

Tolerance mm : +- 0.20

Del. quantity	+	
cm3/1000 strokes	: 19.0	rack travel mm : 4.00
Tolerance	+	Rated speed rpm : 1250
cm3/1000 strokes	: + 3.0 }	Tolerance 1/min : + 15
Check tolerance	+	•
cm3/1000s.	: + 5.5	rack travel mm : 0.85
Spreed	4	Tolerance mm : +- 0.55
Tolerance	4	Rated speed rpm : 1400
cm3/1000 strokes	: 3.0	
Check tolerance	+	rack travel mm : 4.00
cm3/1000S.	: 5.0	Rated speed rpm : 1300
	4	,
	1	•
(B) SETTING OF IN	JECTION PUMP 1	
WITH GOVERNOR	+	LOW IDLE
	4	
	+	,
	<del></del>	control lever
GUIDE SLEEVE POSI	TION +	position degree : 71.0
	+	tolerance degree : +- 4.0
Rated speed rpm	: 800 +	
·	+	Setting point w/out bumper spring
Rack travel in mm	: 0.50	
Tolerance mm	: + 0.20 }	Rated speed rpm : 325
	1	rack travel mm : 7.30
governor spring	+	
pre-tension	+	Testing:
click setting x	: 4.75 <del> </del>	-
	+	Rated speed rpm : 325
	+	rack travel mm : 6.80
FULL LOAD DELIVERY	Y AT FULL LOAD STOP +	Tolerance mm : + 0.10
	+	
Rated speed rpm	: 1150 +	rack travel mm : 2.00
Aneroid pressure	+	Rated speed rpm : 615
hPa	: 700 +	Tolerance 1/min : +- 30
Del. quantity	+	
cm3/1000 strokes	: 109.0 +	Rated speed rpm : 100
Tolerance	+	
cm3/1000 strokes	: <b>←</b> 1.0 <b>+</b>	CRT mm min. : > 19.50
Check tolerance	+	
cm3/1000s.	: + 3.0 +	
Spreed	†	TORQUE CONTROL
Tolerance	<u> </u>	
cm3/1000 strokes	: 3.0 +	Rated speed rpm : 1150
Check tolerance	. <u> </u>	rack travel mm : 11.85
cm3/1000s.	: 6.0 +	Toterance mm : $+$ 0.05
	†	
	†	Rated speed rpm : 500
		rack travel mm : 11.90
CONTROL LEVER	†	Tolerance mm : + 0.10
, , ,	+	
control lever	†	
position degree		ANEROID/ALTITUDE
tolerance degree	: <b>←</b> 4.0 <b>+</b>	COMPENSATOR TEST
	+	
RATED SPEED	+	
	+	SETTING
rack travel mm	: 10.80 +	- · · · · · · · · · · · · · · · · · · ·
Rated speed rpm		Rated speed rpm : 500
Tolerance 1/min	: +- 5 +	Pressure hPa : 700

rack travel mm Tolerance mm	: 11.85 : + 0.05
MEASUREMENT	
Pressure hPa Rated speed rpm rack travel mm Tolerance mm	: - : 500 : 9.90 : + 0.10
Rated speed rpm	: 500
Pressure hPa rack travel mm Tolerance mm	: 160 : 10.55 : + 0.15
Pressure hPa rack travel mm Tolerance mm	: 340 : 11.35 : + 0.05
FUEL DELIVERY CHA	RACTERISTICS
Aneroid pressure hPa Rated speed rpm	: 700 : 850
Del. quantity cm3/1000 strokes Tolerance	: 105.0
cm3/1000 strokes Check tolerance	: <del>+-</del> 1.5
cm3/1000s.	: +- 4.0
Check tolerance cm3/1000s.	: 7.0
Aneroid pressure	•
Rated speed rpm Del. quantity	500
cm3/1000 strokes Tolerance	: 63.0
cm3/1000 strokes Check tolerance	: +- 1.0
cm3/1000s.	: + 3.0
BREAKAWAY	
Rack travel in mm Rated speed rpm	: 10.80 : 1195

Rated speed rpm	:		100
rack travel mm	:		15.70
Tolerance mm	:	+	0.20
Del. quantity			
cm3/1000 strokes	:		125.0
Tolerance			
cm3/1000 strokes	:	+	5.0
Check tolerance			
cm3/1000s.	•	+-	8.0
0.100.000	•	•	5.0

# LOW IDLE

Rated speed rpm	:	325_
rack travel mm	:	7.30
Tolerance mm	: +-	0.20
Del. quantity		
cm3/1000 strokes		19.0
Tolerance		
cm3/1000 strokes	: +-	3.0
Check tolerance		
cm3/1000s.	: +-	5.5
Spreed		
Tolerance		
cm3/1000 strokes	:	3.0
Check tolerance		
cm3/1000s.	•	5.0
01107 100001	•	7.0

End of test specification sheet

STARTING FUEL DELIVERY

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition

: 17.06.95

Test oil

: ISO 4113

Combination No. : 0 400 876 330

Injection pump

Pump designation : PES6A95D410RS2471

EP type number : 0 410 896 952

Governor

Governer design. : RSV325...1400A2C2205

: L

Governer no.

: 0 420 232 445

Cust. part No.

Customer-spec. information

Customer

: KHD

Motor

: PPM BF6L913C

Power KW

: 125.0

TEST BENCH REQUIREMENTS

Inlet line

: 3.1

Test oil inlet

temp. °C

Tolerance °C

2.0

Overflow valve

: 1 417 413 000

Inlet press. bar :

1.0

Test nozzle holde

assembly

: 0 681 343 009

Opening pressure

bar

173.5

Tolerance bar

1.5

Test Lines

: 1 680 750 014

Outside diameter :

6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0

Tolerance bar : + 1.0

Firing order : 1-5-3-6-2-

: 0-60-120-180-240 Phasing

: -300

Tolerance

: + 0.50

Check

tolerance °NW

: + 0.75

BASIC SETTING

Rated speed rpm : 1400

Rack travel in mm : 10.95

Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 89.0

Tolerance

1.0 cm3/1000 strokes

Check tolerance

cm3/1000s.

3.0

Spreed

Tolerance

cm3/1000 strokes :

3.5

Check tolerance

cm3/1000s.

6.0

Rated speed rpm :

325

Rack travel in mm : 7.60

Tolerance mm : + 0.20

Del. quantity +	
cm3/1000 strokes : 13.0 +	rack travel mm : 4.00
Tolerance +	Rated speed rpm : 1505
cm3/1000 strokes : +- 3.0 +	Tolerance 1/min : + 15
Check tolerance	
cm3/1000s. : +- 5.5 +	rack travel mm : 0.85
Spreed	Tolerance mm : + 0.55
Tolerance	Rated speed rpm : 1675
cm3/1000 strokes : 3.5	
Check tolerance	rack travel mm : 4.00
cm3/1000s, : 5.5	Rated speed rpm : 1560
1	
(B) SETTING OF INJECTION PUMP	
WITH GOVERNOR	LOW IDLE
1	
	control lever
GUIDE SLEEVE POSITION	position degree : 72.0
dozoc odacie i odalatii	tolerance degree : + 4.0
Rated speed rpm : 800	total and acgree in the
nated opeca (pii : 355	Setting point w/out bumper spring
Rack travel in mm: 0.50	cotting point wrote bumper opting
Tolerance mm : + 0.20 +	Rated speed rpm' : 325
	rack travel mm : 7.60
governor spring	TACK CLAVEC HAIR . F.OO
pre-tension +	Testing:
click setting x : 4.00	resting.
ttick setting x . 4.00	Rated speed rpm : 325
	rack travel mm : 7.10
FULL LOAD DELIVERY AT FULL LOAD STOP	Tolerance mm : +- 0.10
FOLL LOAD DELIVERY AT FOLL LOAD STOP	toterative limit . The U.TU
Rated speed rpm : 1400	rack travel mm : 2.00
	Rated speed rpm : 655
Aneroid pressure + + + + + + + + + + + + + + + + + + +	Tolerance 1/min : +- 30
	Toterance Minn : +- 30
Del. quantity + cm3/1000 strokes : 89.0 +	Rated speed rpm : 100
Tolerance	Rated speed rpm : 100
	CRT mm min. : > 19.50
· · · · · · · · · · · · · · · · · · ·	CK! mm min. : > 19.50
Check tolerance	
cm3/1000s. : + 3.0	TORQUE CONTROL
Spreed	TORQUE CONTROL
Tolerance cm3/1000 strokes : 3.5	Pated speed speed 4/00
	Rated speed rpm : 1400
Check tolerance	rack travel mm : 10.95
cm3/1000s. : 6.0	Tolerance mm : +- 0.05
<u>†</u>	Detrol over down
†	Rated speed rpm : 500
	rack travel mm : 11.00
CONTROL LEVER	Tolerance mm : + 0.10
†	
control lever	ANCHATA (A) TITUS
position degree : 108.0	ANEROID/ALTITUDE
tolerance degree : + 4.0 +	COMPENSATOR TEST
t	
RATED SPEED +	0=7
+	SETTING
rack travel mm : 9.90 +	
Rated speed rpm : 1445 _ +	Rated speed rpm : 650
Tolerance 1/min : + 5 +	Pressure hPa : 700

Tolerance mm	: +- 0.10
MEASUREMENT	
Pressure hPa Rated speed rpm rack travel mm Tolerance mm	: - : 650 : 10.25 : + 0.05
Rated speed rpm	: 650
Pressure hPa rack travel mm Tolerance mm	: 180 : 10.55 : +- 0.05
Pressure hPa rack travel mm Tolerance mm	: 220 : 10.75 : +- 0.05
FUEL DELIVERY CHA	RACTERISTICS
Aneroid pressure hPa Rated speed rpm	: 700 : 850
Del. quantity cm3/1000 strokes Tolerance	: 81.0
cm3/1000 strokes Check tolerance	: +- 1.5
cm3/1000s.	: + 4.0
Aneroid pressure hPa Rated speed rpm	: - : 650
Del. quantity cm3/1000 strokes	: 65.0
Tolerance cm3/1000 strokes Check tolerance	: + 1.0
cm3/1000s.	: +- 3.0
BREAKAWAY	
Rack travel in mm Rated speed rpm Tolerance 1/min	: 1445
STARTING FUEL DEL	IVERY
Rated speed rpm rack travel mm Tolerance mm	: 100 : 15.80 : + 0.20

rack travel mm : 11.00

Del. quantity cm3/1000 strokes : 120.0 Tolerance cm3/1000 strokes : +- 5.0 Check tolerance cm3/1000s. : +- 8.0

## LOW IDLE

Rated speed rpm 325 rack travel mm 7.60 Tolerance mm : +- 0.20 Del. quantity cm3/1000 strokes : 13.0 Tolerance cm3/1000 strokes : +-3.0 Check tolerance cm3/1000s. 5.5 Spreed Tolerance 3.5 cm3/1000 strokes : Check tolerance cm3/1000s. 5.5

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition

: 17.06.95

Test oil

: ISO 4113

Combination No.

: 0 400 876 387

Injection pump

Pump designation : PES6A95D41DRS2625

EP type number : 0 410 896 926

Governor

Governer design. : RSV375...1200A5C2253

: -4L

Governer no.

: 0 420 232 560

Cust. part No.

Customer-spec. information

Customer

: KHD

Motor

: BF6L913C

Power KW

: 125.0

TEST BENCH REQUIREMENTS

Inlet line

: 3.1

Test oil inlet

temp. °C

40

Tolerance °C 2.0

Overflow valve

: 1 417 413 000

Inlet press. bar :

1.5

Test nozzle holde

assembly

: 0 681 343 009

Opening pressure

bar

173.5

Tolerance bar

Test lines

: 1 680 750 014

Outside diameter :

6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0

Tolerance bar : +- 1.0

: 1-5-3-6-2-Firing order

: 0-60-120-180-240 Phasing

: -300

Tolerance

: + 0.50

Check

tolerance °NW : + 0.75

BASIC SETTING

Rated speed rpm 1200

Rack travel in mm : 11.15

Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 86.0

Tolerance

cm3/1000 strokes 0.5 : +-

Check tolerance

cm3/1000s. 2.5 : +-

Spreed

Tolerance

cm3/1000 strokes : 3.5

6.00

Check tolerance

cm3/1000s.

6.0

375 Rated speed rpm :

Rack travel in mm :

Tolerance mm : +- 0.20

Del. quantity +	•
cm3/1000 strokes : 14.0	rack travel mm : 4.00
Tolerance	Rated speed rpm : 1275
cm3/1000 strokes : +- 3.0	Tolerance 1/min : + 15
Check tolerance	
cm3/1000s. : +- 5.5	rack travel mm : 0.85
Spreed	Tolerance mm : + 0.55
Tolerance	Rated speed rpm : 1440
cm3/1000 strokes : 3.5	
Check tolerance	rack travel mm : 4.00
cm3/1000s. : 5.0	Rated speed rpm : 1295
1 2.0	nated speed (pill : 1273
$\mathbf{I}$	
(B) SETTING OF INJECTION PUMP	
WITH GOVERNOR	LOW IDLE
WITH GOVERNOR	LOW INCL
$\mathbf{I}$	
	control lever
GUIDE SLEEVE POSITION	position degree : 65.0
GOIDE SEEFAE LOOILION	tolerance degree : + 4.0
Rated speed rpm : 800	toterance degree : 4.0
Rated speed rpm : 800	Satting naint Wast human anning
Rack travel in mm: 0.50	Setting point w/out bumper spring
Tolerance mm : +- 0.20	Dated aread pro
Toterance (m) : TO U.20	Rated speed rpm : 375
Total and the second se	rack travel mm : 6.00
governor spring	Tankin
pre-tension +	Testing:
click setting $x : 3.00$	
†	Rated speed rpm : 375
	rack travel mm : 5.55
FULL LOAD DELIVERY AT FULL LOAD STOP	Tolerance mm : +- 0.15
†	
Rated speed rpm : 1200 +	rack travel mm : 2.00
Aneroid pressure	Rated speed rpm : 465
hPa : 800 +	Tolerance 1/min : +- 30
Del. quantity	
cm3/1000 strokes : 86.0 +	Rated speed rpm : 100
Tolerance	
cm3/1000 strokes : + 0.5 +	CRT mm min. : > 19.50
Check tolerance +	
cm3/1000s. : + 2.5 +	
Spreed +	TORQUE CONTROL
Tolerance +	
cm3/1000 strokes : 3.5	Dimension a mm : 1.10
cm3/1000 strokes : 3.5 Check tolerance	Rated speed rpm : 1200
cm3/1000 strokes : 3.5	Rated speed rpm : 1200 rack travel mm : 11.15
cm3/1000 strokes : 3.5 + Check tolerance +	Rated speed rpm : 1200
cm3/1000 strokes : 3.5 + Check tolerance +	Rated speed rpm : 1200 rack travel mm : 11.15 Tolerance mm : + 0.05
cm3/1000 strokes : 3.5 + Check tolerance +	Rated speed rpm : 1200 rack travel mm : 11.15 Tolerance mm : + 0.05  Rated speed rpm : 500
cm3/1000 strokes : 3.5 + Check tolerance +	Rated speed rpm : 1200 rack travel mm : 11.15 Tolerance mm : + 0.05  Rated speed rpm : 500 rack travel mm : 12.05
cm3/1000 strokes : 3.5 Check tolerance cm3/1000s. : 6.0	Rated speed rpm : 1200 rack travel mm : 11.15 Tolerance mm : + 0.05  Rated speed rpm : 500
cm3/1000 strokes : 3.5 Check tolerance cm3/1000s. : 6.0  CONTROL LEVER control lever	Rated speed rpm : 1200 rack travel mm : 11.15 Tolerance mm : + 0.05  Rated speed rpm : 500 rack travel mm : 12.05 Tolerance mm : + 0.05
cm3/1000 strokes : 3.5 Check tolerance cm3/1000s. : 6.0  CONTROL LEVER	Rated speed rpm : 1200 rack travel mm : 11.15 Tolerance mm : + 0.05  Rated speed rpm : 500 rack travel mm : 12.05 Tolerance mm : + 0.05  Rated speed rpm : 1030
cm3/1000 strokes : 3.5 Check tolerance cm3/1000s. : 6.0  CONTROL LEVER  control lever	Rated speed rpm : 1200 rack travel mm : 11.15 Tolerance mm : + 0.05  Rated speed rpm : 500 rack travel mm : 12.05 Tolerance mm : + 0.05  Rated speed rpm : 1030 rack travel mm : 10.50
cm3/1000 strokes : 3.5 Check tolerance cm3/1000s. : 6.0  CONTROL LEVER  control lever position degree : 98.0	Rated speed rpm : 1200 rack travel mm : 11.15 Tolerance mm : + 0.05  Rated speed rpm : 500 rack travel mm : 12.05 Tolerance mm : + 0.05  Rated speed rpm : 1030
cm3/1000 strokes : 3.5 Check tolerance cm3/1000s. : 6.0  CONTROL LEVER  control lever position degree : 98.0	Rated speed rpm : 1200 rack travel mm : 11.15 Tolerance mm : + 0.05  Rated speed rpm : 500 rack travel mm : 12.05 Tolerance mm : + 0.05  Rated speed rpm : 1030 rack travel mm : 10.50
cm3/1000 strokes : 3.5 Check tolerance cm3/1000s. : 6.0  CONTROL LEVER  control lever position degree : 98.0 tolerance degree : +4.0	Rated speed rpm : 1200 rack travel mm : 11.15 Tolerance mm : + 0.05  Rated speed rpm : 500 rack travel mm : 12.05 Tolerance mm : + 0.05  Rated speed rpm : 1030 rack travel mm : 10.50
cm3/1000 strokes : 3.5 Check tolerance cm3/1000s. : 6.0  CONTROL LEVER  control lever position degree : 98.0 tolerance degree : +- 4.0  RATED SPEED	Rated speed rpm : 1200 rack travel mm : 11.15 Tolerance mm : + 0.05  Rated speed rpm : 500 rack travel mm : 12.05 Tolerance mm : + 0.05  Rated speed rpm : 1030 rack travel mm : 10.50
cm3/1000 strokes : 3.5 Check tolerance cm3/1000s. : 6.0  CONTROL LEVER  control lever position degree : 98.0 tolerance degree : +- 4.0  RATED SPEED  rack travel mm : 10.10	Rated speed rpm : 1200 rack travel mm : 11.15 Tolerance mm : + 0.05  Rated speed rpm : 500 rack travel mm : 12.05 Tolerance mm : + 0.05  Rated speed rpm : 1030 rack travel mm : 10.50
cm3/1000 strokes : 3.5 Check tolerance cm3/1000s. : 6.0  CONTROL LEVER  control lever position degree : 98.0 tolerance degree : + 4.0  RATED SPEED  rack travel mm : 10.10	Rated speed rpm : 1200 rack travel mm : 11.15 Tolerance mm : + 0.05  Rated speed rpm : 500 rack travel mm : 12.05 Tolerance mm : + 0.05  Rated speed rpm : 1030 rack travel mm : 10.50

# ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 500
Pressure hPa : 800
rack travel mm : 12.05
Tolerance mm : + 0.05

#### **MEASUREMENT**

Pressure hPa : Rated speed rpm : 500
rack travel mm : 10.55
Tolerance mm : + 0.05

Rated speed rpm : 500

Pressure hPa : 280 rack travel mm : 11.25 Tolerance mm : + 0.15

Pressure hPa : 350 rack travel mm : 11.75 Tolerance mm : + 0.05

# FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa : 800 Rated speed rpm : 800

Del. quantity cm3/1000 strokes :

Tolerance cm3/1000 strokes : +- 1.0

90.0

Check tolerance

cm3/1000s. : +- 3.5

Aneroid pressure

hPa : -Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 56.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s. : +- 3.0

## **BREAKAWAY**

Rack travel in mm: 10.10

Rated speed rpm : 1245
Tolerance 1/min : +- 5

## STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 16.50 Tolerance mm : + 0.20 Del. quantity cm3/1000 strokes : 125.0 Tolerance cm3/1000 strokes : + 5.0 Check tolerance cm3/1000s. : + 8.0

## LOW IDLE

Rated speed rpm 375 rack travel mm 6.00 Tolerance mm 0.20 Del. quantity cm3/1000 strokes 14.0 Tolerance cm3/1000 strokes 3.0 Check tolerance cm3/1000s. 5.5 : +-Spreed Tolerance 3.5 cm3/1000 strokes : Check tolerance 5.0 cm3/1000s.

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 22.05.95 : ISO 4113 Test oil

Combination No. : 0 402 736 887

Injection pump

Pump designation : PES6P120A120RS7369 EP type number : 0 412 726 935

Governor

Governer design. : RQV400...1400PA1211K

Governer no. : 0 421 815 464

Cust. part No. : 3929689

Customer-spec. information Customer : CDC Motor : 6BTA-A Power KW : 160.0

# TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C 40 Tolerance °C 2.0

Overflow valve : 2 417 413 086

Inlet press. bar : 2.0 Tolerance bar : + 0.1

Test nozzle holde

: 1 688 901 103 assembly

Opening pressure

208.5 bar Tolerance bar : +- 1.5

: 1 680 750 015 Test lines

Outside diameter : 6.0

x inside diameter: 3.0 600

x length mm :

#### REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

## BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : + 1.0

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240

: -300

: + 0.50 Tolerance

Check

tolerance °NW : +- 0.75

# BASIC SETTING

Rated speed rpm : 1300

Rack travel in mm: 14.45 Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 180.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance

: +cm3/1000s. 4.0

Spreed

Tolerance

cm3/1000 strokes : 8.0

Check tolerance 12.0 cm3/1000s.

Del. quantity

cm3/1000 strokes : 16.5

Tolerance

cm3/1000 strokes : +- 3.0

Check tolerance +	
cm3/1000s. : +- 5.0 +	Testing:
Spreed	<b>G</b>
Tolerance +	Rated speed rpm : 420
cm3/1000 strokes : 4.0 +	rack travel mm : 6.40 Tolerance mm : + 0.20
Check tolerance +	Tolerance mm : + 0.20
cm3/1000s. : 8.0	
+	Rated speed rpm : 300
(D) APPETUO AP THE PATTON DUMP	0.07
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	CRT mm min. :> 9.10
WITH GOVERNOR	Rated speed rpm : 425
I	rated speed (pill) . 423
FULL LOAD DELIVERY AT FULL LOAD STOP	TORQUE CONTROL
Rated speed rpm : 1300	Rated speed rpm : 1300
Aneroid pressure	rack travel mm : 14.45
hPa : 1500 +	Tolerance mm : + 0.05
Del. quantity	
cm3/1000 strokes : 180.0	Rated speed rpm : 800
Tolerance +	rack travel mm : 12.00
cm3/1000 strokes : + 1.0 +	Tolerance mm : + 0.20
Check tolerance	
cm3/1000s. : + 4.0 +	Rated speed rpm : 1100
Spreed	rack travel mm : 13.50 Tolerance mm : + 0.20
Tolerance + cm3/1000 strokes : 8.0 +	Tolerance mm : + 0.20
cm3/1000 strokes : 8.0 + Check tolerance	
cm3/1000s. : 12.0	ANEROID/ALTITUDE
11137 13030.	COMPENSATOR TEST
<u> </u>	
CONTROL LEVER +	SETTING
+	
control lever	Rated speed rpm : 1300
position degree : 117.5	Pressure hPa : 1500
tolerance degree : +- 6.0 +	MEAGUEENER
DATED OPER	MEASUREMENT
RATED SPEED	Pressure hPa : -
rack travel mm : 13.40	Rated speed rpm : 1300
Rated speed rpm : 1450 +	
Tolerance 1/min : + 25	rack travel mm : 9.50 Tolerance mm : + 0.20
+	
rack travel mm : 5.50 +	Rated speed rpm : 1300
Rated speed rpm : 1650 +	A
+	Pressure hPa : 965 rack travel mm : 13.20
rack travel mm : 0.50	rack travel mm : 13.20
Tolerance mm : + 0.50 + Rated speed rpm : 1850 +	Tolerance mm : + 0.30
Rated speed rpm : 1850	Pressure hPa : 390
Ĭ	rack travel mm : 10.80
	Tolerance mm : +- 0.20
LOW IDLE	OLD WING HIM
1	START CUT-OUT
control lever	
position degree : 74.5	Rated speed rpm : > 100
tolerance degree : + 6.0 +	Rated speed rpm : < 340

Check	. 00
speed 1/min Check	: > 80
speed 1/min	: < 350
FUEL DELIVERY CHA	ARACTERISTICS
America de monecono	
Aneroid pressure hPa	: 1500
Rated speed rpm	: 800
Del. quantity	422.0
cm3/1000 strokes Tolerance	: 122.0
cm3/1000 strokes	: <b>←</b> 3.0
Check tolerance	
cm3/1000s. Spreed	: + 6.0
Tolerance	
cm3/1000 strokes	: 8.0
Check tolerance cm3/1000s.	: 12.0
(1107 10000)	
Aneroid pressure	
hPa Rated speed rpm	1300
Del. quantity	. 1500
cm3/1000 strokes	: 79.5
Tolerance cm3/1000 strokes	: +- 2.0
Check tolerance	. +- 2.0
cm3/1000s.	: <b>←</b> 4.0
BREAKAWAY	
Rack travel in mm	: 13.40
Rated speed rpm	: 1450
Tolerance 1/min	: +- 25
STARTING FUEL DEL	 IVERY
Ontal and all and	. 400
Rated speed rpm rack travel mm	: 100 : 12.80
Tolerance mm	: +- 0.50
Del. quantity	: 157.0
cm3/1000 strokes Tolerance	. 157.0
cm3/1000 strokes	: <del>-</del> 20.0
Check tolerance cm3/1000s.	: +- 25.0
CHID/ (UUUS.	
-	

Del. quantity		
cm3/1000 strokes	:	16.5
Tolerance		
cm3/1000 strokes	; +-	3.0
Check tolerance		
cm3/1000S.	: +	5.0
Spreed		
Tolerance		
cm3/1000 strokes	:	4.0
Check tolerance		
cm3/1000s.	:	8.0
	•	3.0

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil : 12.05.95 : ISO 4113

Combination No. : 9 400 030 696

Injection pump

Pump designation : PES6A95D320/3RS2881

EP type number : 9 410 037 215

Governor

Governer design. : RSV475...1250A0C826R

Governer no. : 9 420 034 700

Cust. part No. :

Customer-spec. information

Customer : CUMMINS

Motor

: 6BT - 165 PS

#### TEST BENCH REQUIREMENTS

Inlet line : 1.1

Test oil inlet

temp. °C

Tolerance °C

2.0

Overflow valve : 1 417 413 047

Inlet press. bar :

1.5

Tolerance bar : + 0.1

Test nozzle holde

assembly

: 1 688 901 101

Opening pressure

207.0

Tolerance bar : +- 3.0

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0

Tolerance bar :  $\leftarrow$  1.0

Prestroke mm

Tolerance mm

: +- 0.05

Check

tolerance mm

: + 0.10

Rack travel in mm: 10.50

Firing order

Tolerance mm : +- 1.50

: 1-5-3-6-2-

Phasing

: 0-60-120-180-240

: -300

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm: 12.60

Tolerance mm :  $\leftarrow$  0.05

(B) SETTING OF INJECTION PUMP

WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm :

800

Rack travel in mm: 0.80

Tolerance mm : + 0.20

governor spring pre-tension click setting x: 2.50 CONTROL LEVER control lever position degree : 50.0 tolerance degree : + 4.0 RATED SPEED rack travel mm 11.60 Rated speed rpm : 1316 Tolerance 1/min : +-4.00 rack travel mm Rated speed rpm : 1410 Tolerance 1/min : +- 15 rack travel mm 1.20 : +- 0.50 Tolerance mm Rated speed rpm : 1470 LOW IDLE control lever 25.0 position degree : tolerance degree : +- 4.0 Testing: 475 Rated speed rpm rack travel mm 5.70 Tolerance mm : +- 0.10 2.00 rack travel mm Rated speed rpm : 555 30 Tolerance 1/min : +-100 Rated speed rpm : CRT mm min. : > 19.50 TORQUE CONTROL 1250 Rated speed rpm rack travel mm : 12.60

rack travel mm : Tolerance mm : +- 0.05 ANEROID/ALTITUDE COMPENSATOR TEST SETTING Rated speed rpm 800 Pressure hPa 800 rack travel mm 12.70 : +- 0.05 Tolerance mm MEASUREMENT Rated speed rpm : 800 Pressure hPa : 10.40 rack travel mm : **←** 0.05 Tolerance mm rressure hPa : rack travel mm : 500 11.30 Tolerance mm :  $\leftarrow$  0.10 BREAKAWAY Rack travel in mm: 11.60 Rated speed rpm : 1316 Tolerance 1/min : +-STARTING FUEL DELIVERY Rated speed rpm 100 rack travel mm 20.25 Tolerance mm : +- 0.75

End of test specification sheet

Rated speed rpm :

800

12.70

: +- 0.05 Tolerance mm

Rated speed rpm : 500 rack travel mm : 12.70

Tolerance mm : + 0.10

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 12.10.95 Test oil : ISO 4113

Combination No. : 0 403 244 049

Injection pump

Pump designation : PES4MW100/320RS1521

EP type number : 0 413 204 020

Governor

Governer design. : RQ400/1200MW149 Governer no. : 0 420 082 075

Cust. part No. : 51.11103-7468

Customer-spec. information

Customer : MAN

Motor : D0824 LFL04

Power KW : 81.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 008

Outside diameter : 8.0

x inside diameter: 2.0 x length mm : 600

# REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

## BEGINNING OF DELIVERY

Test pressure bar : 31.0 Tolerance bar : + 1.0

Prestroke mm : 5.05
Tolerance mm : + 0.05

Check

tolerance mm :  $\leftarrow$  0.10

Rack travel in mm: 10.50
Tolerance mm: + 1.50

Firing order : 1-3-4-2

Phasing : 0-90-180-270

Tolerance : + 0.50

Check

tolerance °NW : +- 0.75

Start of delivery mark

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 900

Rack travel in mm : 12.30
Tolerance mm : + 0.05

Tolerance mm : +- 0.05

Del. quantity cm3/1000 strokes : 135.0

Tolerance cm3/1000 strokes : +- 1.0

Check tolerance cm3/1000s. : +- 4.0

Spreed

Tolerance	+	
cm3/1000 strokes	: 4.0	GUIDE SLEEVE POSITION
Check tolerance cm3/1000s.	<b>:</b> 7.5	Rated speed rpm : 600
Rated speed rpm	: 400	Rack travel in mm : 16.50 Tolerance mm : +- 0.80
Rack travel in mm Tolerance mm Del. quantity	1 : 4.80 : + 0.20	FULL LOAD DELIVERY AT FULL LOAD STOP
cm3/1000 strokes	: 23.0	
Tolerance cm3/1000 strokes Check tolerance	: + 2.0	Rated speed rpm : 900 Aneroid pressure hPa : 800
cm3/1000s. Spreed	: + 4.5	Del. quantity cm3/1000 strokes : 135.0
Tolerance cm3/1000 strokes	: 3.5	Tolerance cm3/1000 strokes : + 1.0
Check tolerance cm3/1000s.	: 5.5	Check tolerance cm3/1000s. : +- 4.0 Spreed
(B) SETTING OF IN	JECTION PUMP	Tolerance cm3/1000 strokes : 4.0 Check tolerance
GUIDE SLEEVE TRAV		cm3/1000s. : 7.5
Rated speed rpm	: 400	CONTROL LEVER
guide sleeve	+	
travel mm Tolerance mm	: 2.75 : ← 0.20	control lever position degree : 98.0 tolerance degree : +- 4.0
Rated speed rpm guide sleeve	+	RATED SPEED
travel mm Tolerance mm	: 7.47 : + 0.15	rack travel mm : 11.30 Rated speed rpm : 1253
Rated speed rpm guide sleeve	+	Tolerance 1/min : + 8
travel mm Tolerance mm	: + 7.00 : + 0.10	rack travel mm : 4.00 Rated speed rpm : 1335 Tolerance 1/min : +- 15
Rated speed rpm guide sleeve	+	rack travel mm : 0.50
travel mm Tolerance mm	: 4.36 : + 0.10	Tolerance mm : +- 0.50 Rated speed rpm : 1450
Rated speed rpm guide sleeve	: 650	
travel mm Tolerance mm	: 7.00 : + 0.10	LOW IDLE
Rated speed rpm guide sleeve	: 1420	control lever position degree : 73.0
travel mm Tolerance mm	: 11.50 : + 0.50	tolerance degree : +- 4.0
	‡	Testing:

Rated speed rpm : 4.80 Tolerance mm : 4.80 Tolerance mm : + 0.10  Rated speed rpm : 300  CRT mm min. :> 6.50  TORQUE CONTROL  Rated speed rpm : 900 rack travel mm : 12.30 Tolerance mm : + 0.05  Rated speed rpm : 1200 rack travel mm : 12.30 Tolerance mm : + 0.10	Del. quantity cm3/1000 strokes : 129.0 Tolerance cm3/1000 strokes : + 2.0 Check tolerance cm3/1000s. : + 5.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 9.0  Aneroid pressure hPa : 800 Rated speed rpm : 650 Del. quantity cm3/1000 strokes : 140.0 Tolerance cm3/1000 strokes : + 2.0
Rated speed rpm : 650 rack travel mm : 12.30 Tolerance mm : +- 0.10	theck tolerance cm3/1000s. : + 5.0  Aneroid pressure
ANEROID/ALTITUDE COMPENSATOR TEST	+ hPa :
SETTING	- cm3/1000 strokes : +- 1.0 - Check tolerance
Rated speed rpm : 500 Pressure hPa : 800 rack travel mm : 12.30 Tolerance mm : + 0.05	cm3/1000s. : +- 3.0  BREAKAWAY
MEASUREMENT  Pressure hPa : - Rated speed rpm : 500 Tolerance mm : + 0.10  Rated speed rpm : 500	Rack travel in mm: 11.30 Rated speed rpm: 1253 Tolerance 1/min: +- 8
Rated speed rpm : 500  Pressure hPa : 400 rack travel mm : 1.60 Tolerance mm : + 0.10  Pressure hPa : 130 rack travel mm : 0.30 Tolerance mm : + 0.10	STARTING FUEL DELIVERY  Rated speed rpm : 100  Del. quantity cm3/1000 strokes : 110.0  Tolerance cm3/1000 strokes : +- 5.0  Check tolerance cm3/1000s. : +- 8.0
FUEL DELIVERY CHARACTERISTICS Aneroid pressure	LOW IDLE
hPa : 800 Rated speed rpm : 1200	Rated speed rpm : 400 rack travel mm : 4.80 Tolerance mm : +- 0.20

Del. quantity		
cm3/1000 strokes	:	23.0
Tolerance		
cm3/1000 strokes	: +-	2.0
Check tolerance		
cm3/1000s.	: +	4.5
Spreed		
Tolerance		
cm3/1000 strokes	:	3.5
Check tolerance		
cm3/1000s.	:	5.5

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 01.12.95 Edition : ISO 4113 Test oil

Combination No. : 0 402 848 300

Injection pump

Pump designation : PE8P120A520LS8518 EP type number : 0 412 828 201

Governor

Governer design. : RQV300...1150PA1039

: -3K

: 0 421 815 980 Governer no.

Cust. part No. : 51.11103-7492

Customer-spec. information

: MAN Customer

: D 2848 LE 403 Motor

: 588.0 Power KW

## TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C Tolerance °C : + 2.0

Overflow valve : 1 417 413 078

Inlet press. bar : Tolerance bar

Overflow quantity

min. L/h 170 Tolerance 1/h : +- 15.0

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

208.5 bar Tolerance bar : +- 1.5 Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

# BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : +- 1.0

Prestroke mm 5.65 Tolerance mm : + - 0.05

Check

tolerance mm : + - 0.10

Rack travel in mm: 13.00 : +- 0.50 Tolerance mm

: 8-7-2-6-3 Firing order : - 5- 4- 1

Phasina : 0-45-90-135-180 : -225-270-315

Tolerance : + - 0.30

Check

tolerance "NW : + 0.50

Start of delivery blocking

Barrel no. 8

BASIC SETTING

1150 Rated speed rpm

Rack travel in mm: 13,70 : +- 0.05 Tolerance mm

Del. quantity cm3/1000 strokes : 337.0

		+ Tolerance mm : + 0.50
Tolerance cm3/1000 strokes	: + 1.0	‡
Check tolerance		GUIDE SLEEVE POSITION
cm3/1000s.	: +- 4.0	Rated speed rpm : 1327
Spreed		+ Rack travel in mm: 12.70
Tolerance cm3/1000 strokes	: 8.0	Tolerance mm : + 1.30
Check tolerance cm3/1000s.	: 12.0	FULL LOAD DELIVERY AT FULL LOAD STOP
Rated speed rpm	: 300	Rated speed rpm : 1150 Aneroid pressure
Rack travel in mm	5.00	+ hPa : 2000
Tolerance mm	5.00 : +- 0.20	+ Del. quantity + cm3/1000 strokes : 337.0
Del. quantity	0.20	Tolerance 337.8
cm3/1000 strokes	: 49.0	+ cm3/1000 strokes : + 1.0
Tolerance cm3/1000 strokes	: + 3.0	+ Check tolerance + cm3/1000s. : + 4.0
Check tolerance	: 3.0	+ Spreed
cm3/1000s.	: + 8.0	+ Tolerance
Spreed		+ cm3/1000 strokes : 8.0
Tolerance		+ Check tolerance
cm3/1000 strokes	: 8.0	+ cm3/1000s. : 12.0
Check tolerance cm3/1000s.	: 12.0	1
(11137 10008.	. 12.0	
		+ CONTROL LEVER
(B) SETTING OF IN	JECTION PUMP	+
WITH GOVERNOR		- control lever
		position degree : 118.0
GUIDE SLEEVE TRAVE	EL	tolerance degree : + 4.0
		+ RATED SPEED
Rated speed rpm	: 300	t
guide sleeve	. 4.42	+ rack travel mm : 12.70 + Rated speed rpm : 1195
travel mm Tolerance mm	: 1.61 : + 0.20	+ Rated speed rpm : 1195 + Tolerance 1/min : +- 5
TOTEL GLICE IIII	0.20	- Toterance Training 1
Rated speed rpm	: 1206	rack travel mm : 4.00
guide sleeve		Rated speed rpm : 1325
travel mm	9.84	Tolerance 1/min : +- 15
Tolerance mm	: +- 0.15	t rack travel mm : 0.50
Rated speed rpm	: 797	Tolerance mm : + 0.50
guide sleeve		Rated speed rpm : 1400
travel mm	: 6.36	+
Tolerance mm	: <b>+</b> 0.25	+
Data dana ada man		LOUITNIE
Rated speed rpm	: 460	LOW IDLE
guide sleeve travel mm	: 3.78	
Tolerance mm	: + 0.25	control lever
		position degree : 71.0
Rated speed rpm	: 1500	tolerance degree : +- 4.0
guide sleeve	. 17 50	Tooting
travel mm	: 13.50	+ Testing:

		£
Rated speed rpm	: 300	
rack travel mm Tolerance mm	5.00	+ START CUT-OUT
Tolerance mm	: ← 0.10	<del>+</del>
Data d	- 200	+ Rated speed rpm : > 170 + Rated speed rpm : < 230
Rated speed rpm	: 200	+ Rated Speed rpm : < 250
'CRT mm min.	: > 6.90	Check
	*****	+ speed 1/min : > 150
Rated speed rpm	: 340	+ Check
		+ speed 1/min : < 240
TORQUE CONTROL		
TONGOE CONTROL		FUEL DELIVERY CHARACTERISTICS
Rated speed rpm	: 1150	+
rack travel mm	: 13.70	+ Aneroid pressure
Tolerance mm	: <del></del> 0.05	+ hPa : 2000
Datasi amaasi uum	. 1000	Rated speed rpm : 1000
rack travel mm	• 13.65	+ Del. quantity + cm3/1000 strokes : 344.0
Rated speed rpm rack travel mm Tolerance mm	: + 0.10	+ Tolerance
		+ cm3/1000 strokes : + 4.0
Rated speed rpm	<b>:</b> 850	+ Check tolerance
rack travel mm	: 12.60	+ cm3/1000s. : +- 8.0
Tolerance mm	: +- 0.70	Amonoid among uno
Rated speed rom	• 650	+ Aneroid pressure + hPa : 2000
rack travel mm	: 11.40	+ Rated speed rpm : 850
Rated speed rpm rack travel mm Tolerance mm	: +- 0.10	→ Del. quantity
		+ cm3/1000 strokes : 321.0
		+ Tolerance
ANEROID/ALTITUDE		+ cm3/1000 strokes : + 4.0
COMPENSATOR TEST		+ Check tolerance + cm3/1000S. : + 8.0
		1
SETTING		+ Aneroid pressure
		† hPa : 2000
Rated speed rpm	: 1150	Rated speed rpm : 650
Pressure hPa rack travel mm	: 2000 : 13.70	+ Del. quantity + cm3/1000 strokes : 299.0
Tolerance mm	: +- 0.05	Tolerance
10 co 1 di 700 1 iiiii		+ cm3/1000 strokes : + 4.0
MEASUREMENT		+ Check tolerance
		+  cm3/1000s. : + 8.0
Pressure hPa Rated speed rpm	1150	Aneroid pressure
rack travel mm		+ hPa : -
Tolerance mm	: ← 0.15	Rated speed rpm : 500
		+ Del. quantity
Rated speed rpm	: 1150	+ cm3/1000 strokes : 185.0
Duanauma LDa	ຸ ລວດ	+ Tolerance + cm3/1000 strokes : +- 1.0
Pressure hPa rack travel mm	: 220 : 8.05	Check tolerance
Tolerance mm	: ← 0.05	- cm3/1000s. : +- 4.0
. + to : a. ; to : irii		+
Pressure hPa	: 1050	
rack travel mm	: 11.90	BREAKAWAY
Tolerance mm	: +- 0.15	1
		<del></del>

Rack travel in mm :

12.70

Rated speed rpm : 1195
Tolerance 1/min : +- 5

## STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : + 0.50
Del. quantity
cm3/1000 strokes : 130.0
Tolerance

cm3/1000 strokes : +- 15.0 Check tolerance

cm3/1000s. : + 19.0

## LOW IDLE

300 Rated speed rpm 5.00 rack travel mm Tolerance mm : +- 0.20 Del. quantity cm3/1000 strokes 49.0 Tolerance cm3/1000 strokes : +-3.0 Check tolerance cm3/1000s. 8.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance 12.0 cm3/1000s.

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 11.12.95 Test oil : ISO 4113

Combination No. : 0 400 076 960

Injection pump

Pump designation : PES6M55C32ORS179 EP type number : 0 410 056 985

Governor

Governer design. : RSF315/2000M65-6 Governer no. : 0 420 021 161

Cust. part No. :

Customer-spec. information Customer : MB-PKW

Motor : OM603A D35 GW

Power KW : 100.0

#### TEST BENCH REQUIREMENTS

Test oil inlet

temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 1 469 990 351

Inlet press. bar : 1.0

Test nozzle holde

assembly : 1 688 901 111

Opening pressure

bar : 148.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0 x length mm : 600

#### REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

## BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 1.75
Tolerance mm : + 0.05

Check

tolerance mm :  $\leftarrow$  0.10

Rack travel in mm : 21.00
Tolerance mm : + 1.00

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Start of delivery blocking

*NW after s.o.d. : 17.00 Tolarence : + 0.20

Check

tolerance "NW : + 0.30

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm: 13.65
Tolerance mm: + 0.05

Del. quantity

cm3/1000 strokes : 58.5

Tolerance

cm3/1000 strokes : + 0.5

Check tolerance cm3/1000S. : + 1.5  Spreed Tolerance	rack travel mm : 0.50 Tolerance mm : + 0.50 Rated speed rpm : 2700
cm3/1000 strokes : 2.5	SET IDLE CONTROL LEVER POSITION
Check tolerance cm3/1000s. : 3.0	Rated speed rpm : 1000
Rated speed rpm : 290	CRT mm max. : 1.95
Rack travel in mm: 6.30 Tolerance mm: + 0.10 Del. quantity	LOW IDLE
cm3/1000 strokes : 10.0	control lever
cm3/1000 strokes : + 0.5 Spreed Tolerance	position degree : 10.0 tolerance degree : + 2.0
cm3/1000 strokes : 1.0	Setting point w/out bumper spring Rated speed rpm : 290 rack travel mm : 6.30
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	SET IDLE AUXILIARY SPRING
IDLE STAGE	Rated speed rpm : 400 rack travel mm : 4.80 Tolerance mm : + 0.10
Rack travel in mm: 5.50 Tolerance mm: + 0.25	Load pick-up
	Rated speed rpm : 200
FULL LOAD DELIVERY AT FULL LOAD STOP	CRT mm min. : > 7.50
Rated speed rpm : 1000 + Ref. pressure +	Rated speed rpm : 1000
ALDA / ADA hPa : 1900 Del. quantity	CRT mm max. : 1.95
cm3/1000 strokes : 58.5	rack travel mm : 6.30 Rated speed rpm : 290
cm3/1000 strokes : + 0.5 Check tolerance	
cm3/1000S. : + 1.5 + Tolerance	TORQUE CONTROL
cm3/1000 strokes : 2.5 Check tolerance	Rated speed rpm : 1000 rack travel mm : 13.65
cm3/1000s. : 3.0	Tolerance mm : + 0.05
RATED SPEED	Rated speed rpm : 1600 rack travel mm : 12.85 Tolerance mm : +- 0.10
control lever position degree : 50.0	Rated speed rpm : 2000 rack travel mm : 11.70 Tolerance mm : + 0.10
rack travel mm : 6.50 Rated speed rpm : 2350	

<del></del>		+ Ref. pressure
ADJUSTMENT TEST	ADA/ALDA	+ ALDA / ADA hPa : 1100 + Rated speed rpm : 1000
SETTING		+ Del. quantity
Rated speed rpm	: 1000	+ cm3/1000 strokes : 41.5 + Tolerance
Ref. pressure	. 1000	cm3/1000 strokes : + 0.5
ALDA / ADA hPa		+ Check tolerance
rack travel mm Tolerance mm	: -0.40 : +- 0.20	+ cm3/1000s. : +- 1.5
rocerance man	: 0.20	+ Spreed + Tolerance
MEASUREMENT		+ cm3/1000 strokes : 2.5
<b></b>	4000	+ Check tolerance
Rated speed rpm Ref. pressure	: 1000	- cm3/1000s. : 3.0
ALDA / ADA hPa	: 1100	I
rack travel mm	-2.95	
Tolerance mm	: + 0.10	HIGH IDLE
Rated speed rpm	: 1000	Ref. pressure
Ref. pressure		ALDA / ADA hPa : 1900
ALDA / ADA hPa	: 750	+
rack travel mm	: -4.80	CTARTAIC FUEL NELTHERY
Tolerance mm	: + 0.20	+ STARTING FUEL DELIVERY
		+ Rated speed rpm : 100
		+ rack travel mm : 20.10
FUEL DELIVERY CH	ARACTERISTICS	+ Del. quantity + cm3/1000 strokes : 52.0
Ref. pressure		+ Spreed
ALDA / ADA hPa	: 1900	+ Tolerance
Rated speed rpm		+ cm3/1000 strokes : 6.0
Del. quantity	<b>***</b> •	+ Check tolerance
cm3/1000 strokes	: 55.8	+ cm3/1000s. : 6.0
Tolerance cm3/1000 strokes	: +- 0.8	I
Check tolerance		+
cm3/1000s.	: + 1.8	
Spreed		+ LOW IDLE
Tolerance	: 2.5	Del. quantity
cm3/1000 strokes Check tolerance	: 2.5	+ cm3/1000 strokes : 11.8
cm3/1000s.	: 3.0	Check tolerance
		+ cm3/1000s. : + 2.3
Ref. pressure	4000	+ Spreed
ALDA / ADA hPa	: 1900	+ Check tolerance
Rated speed rpm Spreed	: 2000	± cm3/1000s. : 1.5
Del. quantity		$\frac{1}{4}$
cm3/1000 strokes	: 51.0	
Tolerance		+
cm3/1000 strokes	: <b>←</b> 1.0	77.00
Check tolerance	: <del></del> 2.0	+ Grad : > 37.00
cm3/1000S. Spreed	: +- 2.0	Figure 1
Tolerance		+
cm3/1000 strokes	: 2.5	
Check tolerance	. 7.0	+ SETTING PNEUMATIC FAST IDLE (ELA)
cm3/1000S.	: 3.0	†

control lever position degree 10.0 tolerance degree : + 2.0 SETTING/TESTING ELECTRONIC IDLE REGULATION (ELR) control lever 10.0 position degree tolerance degree : Rated speed rpm 315 Rack travel in mm : 12.50 Tolerance mm : + - 0.70Del. quantity 48.0 cm3/1000 strokes : Del. quantity cm3/1000 strokes : 48.0 Tolerance cm3/1000 strokes 4.0 Tolerance cm3/1000 strokes 4.0 1.80 Current A control lever 50.0 position degree 2700 Rated speed rpm 0.50 Rack travel in mm: 0.50 Tolerance mm Current short-3.00 duration A Starting test 100 Rated speed rpm Current A 1.80 **ADJUSTMENT** control lever position degree 50.0 TESTING PNEUMATIC SHUTOFF DEVICE 290 Rated speed rpm End of test specification sheet

## Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil : 11.12.95 : ISO 4113

Combination No. : 0 400 076 961

Injection pump

Pump designation : PES6M55C32ORS157-1

EP type number : 0 410 056 991

Governor

Governer design. : RSF315/2300M65-5

Governer no. : 0 420 021 145

Cust. part No. :

Customer-spec. information Customer : MB-PKW

Motor

: OM6O3A-ECE

Power KW

: 110.0

#### TEST BENCH REQUIREMENTS

Test oil inlet

temp. °C

Tolerance °C

2.0

Overflow valve : 1 469 990 351

Inlet press. bar : 1.0

Test nozzle holde

assembly

: 1 688 901 111

Opening pressure

148.5

Tolerance bar : + 1.5

Test Lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter:

2.0

x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

## BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm

: 2.25

Tolerance mm

: +- 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm: 21.00

Tolerance mm : + 1.00

Firing order

: 1-5-3-6-2-

Phasing

: 0-60-120-180-240

: -300

Start of delivery blocking

*NW after s.o.d. : 19.50

Tolerance

: +- 0.20

Check

tolerance  $^{\circ}NW$  : +- 0.30

Barrel no. : 1

#### BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm: 13.95

Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 53.0

Tolerance

cm3/1000 strokes : + 0.5

Check tolerance cm3/1000s. : + 1.5	rack travel mm : ±0.50 Tolerance mm : ± 0.50
Spreed Tolerance cm3/1000 strokes : 2.5	Rated speed rpm : 2950
Check tolerance cm3/1000s. : 3.0	SET IDLE CONTROL LEVER POSITION  Rated speed rpm : 1000
Rated speed rpm : 290	CRT mm max. : 1.75
Rack travel in mm: 5.40 Tolerance mm: + 0.10 Del. quantity	LOW IDLE
cm3/1000 strokes : 7.0	control lever
cm3/1000 strokes : + 0.5 Spreed Tolerance	position degree : 10.0 tolerance degree : + 2.0
cm3/1000 strokes : 1.0	Setting point w/out bumper spring Rated speed rpm : 290 rack travel mm : 5.40
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	SET IDLE AUXILIARY SPRING
IDLE STAGE	Rated speed rpm : 360 rack travel mm : 4.30 Tolerance mm : + 0.10
Rack travel in mm: 6.50 Tolerance mm: + 0.10	rack travel mm : 2.50 Rated speed rpm : 560 Tolerance 1/min : + 50
FULL LOAD DELIVERY AT FULL LOAD STOP	Load pick-up
Rated speed rpm : 1000 + Ref. pressure	Rated speed rpm : 200
ALDA / ADA hPa : 1850 Del. quantity	CRT mm min. : > 7.00
cm3/1000 strokes : 53.0	Rated speed rpm : 1000
cm3/1000 strokes : + 0.5 + Check tolerance	CRT mm max. : 1.75
cm3/1000S. : + 1.5 + Spreed + Tolerance	rack travel mm : 5.40 Rated speed rpm : 290
cm3/1000 strokes : 2.5 Check tolerance	
cm3/1000s. : 3.0	TORQUE CONTROL
RATED SPEED	Rated speed rpm : 1000 rack travel mm : 13.95 Tolerance mm : + 0.05
control lever position degree : 50.0	Rated speed rpm : 1600 rack travel mm : 13.20 Tolerance mm : +- 0.10
rack travel mm : 8.30 + Rated speed rpm : 2500 +	Rated speed rpm : 2200

rack travel mm Tolerance mm	: 12.40 : + 0.10	+ Del. quantity + cm3/1000 strokes : 36.5 + Tolerance
JUSTMENT TEST	ADA/ALDA	- + cm3/1000 strokes : + 0.5 + Check tolerance + cm3/1000s. : +- 1.5
ETTING		+ Spreed + Tolerance
eated speed rpm lef. pressure LDA / ADA hPa	: 1000	cm3/1000 strokes : 2.5
	: 1600	cm3/1000s. : 3.0
EASUREMENT		
lated speed rpm lef. pressure		HIGH IDLE
NLDA / ADA hPa		+ Ref. pressure + ALDA / ADA hPa : 1850
Rated speed rpm Ref. pressure		OTADITAIN FUEL AFI TUEDA
ALDA / ADA hPa	; /3U	+ STARTING FUEL DELIVERY +
<u> </u>		Rated speed rpm : 100 - rack travel mm : 20.10
FUEL DELIVERY CH	ARACTERISTICS	cm3/1000 strokes : 52.0
Ref. pressure ALDA / ADA hPe Rated speed rpm	: 1850	+ Spreed + Tolerance + cm3/1000 strokes : 6.0
el. quantity		+ Check tolerance
m3/1000 strokes olerance		+ cm3/1000s. : 6.0
m3/1000 strokes heck tolerance m3/1000s.		‡
Spreed	: +- 1.8	LOW IDLE
Tolerance cm3/1000 strokes	: 2.5	Del. quantity
heck tolerance		+ cm3/1000 strokes : 8.6
m3/1000s.	: 3.0	+ Check tolerance + cm3/1000s. : +- 2.3
ef. pressure LDA / ADA hPa	: 1850	+ Spreed + Check tolerance
ated speed rpm preed		cm3/1000s. : 1.5
el. quantity m3/1000 strokes	: 49.5	<u> </u>
olerance n3/1000 strokes neck tolerance	: <del>+</del> 1.0	Grad :> 35.50
m3/1000s. preed	: +- 2.0	Grad : < 33.00
olerance	2.5	+
m3/1000 strokes heck tolerance		SETTING PNEUMATIC FAST IDLE (ELA)
m3/1000s.	: 3.0	‡
ef. pressure LDA / ADA hPa	: 1100	control lever position degree : 10.0
ated speed rpm		tolerance degree : + 2.0

# SETTING/TESTING ELECTRONIC IDLE REGULATION (ELR)

control lever

position degree : 10.0 tolerance degree : + 2.0 Rated speed rpm : 315

Tolerance

cm3/1000 strokes : +- 4.0

Current A : 1.80

control lever

position degree : 50.0 Rated speed rpm : 2950

Rack travel in mm : 0.50
Tolerance mm : + 0.50

Current short-

duration A : 3.00

Starting test

Rated speed rpm : 100

Current A : 1.80

ADJUSTMENT

control lever

position degree : 50.0

TESTING PNEUMATIC SHUTOFF DEVICE

Rated speed rpm : 290

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 07,12,95 Edition : ISO 4113 Test oil

Combination No. : 0 400 836 021

Injection pump

Pump designation : PES6A80D410/3RS2527

EP type number : 0 410 886 059

Governor

Governer design. : RQV300...1400AB951DL

Governer no. : 0 420 214 215

Cust. part No.

Customer-spec. information

Customer : KHD : F6L912 Motor

## TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C Tolerance °C : +- 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

: 0 681 343 009 assembly

Opening pressure

173.5 bar : +- 1.5 Tolerance bar

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

## BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : +- 1.0

Prestroke mm 1.95 : +- 0.05 Tolerance mm

Check

: +- 0.10 tolerance mm

Rack travel in mm: 10.50 : +- 1.50 Tolerance mm

: 1-5- 3- 6- 2-Firing order

: 0-60-120-180-240 Phasing

: -300

Tolerance : +- 0.50

Check

tolerance "NW : + 0.75

BASIC SETTING

Rated speed rpm : 1400

Rack travel in mm: 12.05 Tolerance mm : + 0.05

Del. quantity cm3/1000 strokes :

Tolerance

cm3/1000 strokes : +- 0.5

Check tolerance cm3/1000s.

: +- 2.0

Spreed Tolerance

cm3/1000 strokes :

2.5

69.5

Check tolerance	+	Del. quantity	
cm3/1000s. :	4.0	cm3/1000 strokes	: 69.5
	+	Tolerance	
Rated speed rpm :	300 +	cm3/1000 strokes	: <b>←</b> 0.5
	+	Check tolerance	
Rack travel in mm:	6.00	cm3/1000s.	: +- 2.0
	+ 0.10 +	Spreed	
Del. quantity	12.0	Tolerance	2 5
cm3/1000 strokes :	12.0	cm3/1000 strokes	: 2.5
Tolerance cm3/1000 strokes :	÷ 1.5 ‡	Check tolerance	
Check tolerance	T 1.3	cm3/1000s.	: 4.0
cm3/1000s. :	+ 3.5		
Spreed	I		
Tolerance	1	CONTROL LEVER	
cm3/1000 strokes :	4.0	OUTTION DEVEN	
Check tolerance	1	control lever	
cm3/1000s. :	6.0	position degree	: 103.0
	1	tolerance degree	
	<del> </del>	•	
(B) SETTING OF INJECT	CTION PUMP +	RATED SPEED	
WITH GOVERNOR	+		
	+	rack travel mm	: 11.00
		Rated speed rpm	: 1445
GUIDE SLEEVE TRAVEL	+	Tolerance 1/min	: +- 5
	+		4 00
Rated speed rpm :	300 +	rack travel mm	: 4.00
guide sleeve	1 20	Rated speed rpm	: 1550
travel mm :	1.20 + 0.15	Tolerance 1/min	: +- 15
Tolerance mm :	T 0.15	rack travel mm	: 0.50
Rated speed rpm :	1454 I	Tolerance mm	: + 0.50
guide sleeve	I 1434	Rated speed rpm	1700
travel mm :	8.60	Marca speed (piii	. 1100
	+ 0.15		
100,000	1		
Rated speed rpm :	970	LOW IDLE	
guide sleeve	+		
travel mm :	5.00		
Tolerance mm :	+ 0.25	control lever	
	+	position degree	
Rated speed rpm :	1720 +	tolerance degree	: +- 4.0
guide sleeve	t +	Tanklass	
travel mm :	11.50	Testing:	
Tolerance mm :	+ 0.50	Dated annual ann	. 200
		Rated speed rpm rack travel mm	
CUIDE SI EEVE POSITIO	101	Tolerance mm	: +- 0.10
GUIDE SLEEVE POSITIO	T I	IOLEI GILLE IIIII	. += 0.10
Rated speed rpm :	1440 I	Rated speed rpm	: 100
nated speed (pill )	1	THE COLUMN TO THE	
Rack travel in mm :	16.50	CRT mm min.	: > 7.50
Tolerance mm :			
	1	Rated speed rpm	: 495
		•	
FULL LOAD DELIVERY A	IT FULL LOAD STOP		
	+	TORQUE CONTROL	
Rated speed rpm :	1400 +		
Aneroid pressure	+	Dimension a mm	: 0.80
hPa :	- +	Rated speed rpm	: 1400

05 05 35 10 70
85 10
35 10
10
70
10
-
<b>4</b> 0
<del>1</del> 0
00
20
30
<b>10</b>
CS
5
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0
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5 5

Rated speed rpm rack travel mm	:		300 6.00
Tolerance mm Del. quantity	:	+-	0.10
cm3/1000 strokes Tolerance	:		12.0
cm3/1000 strokes	:	+	1.5
Check tolerance cm3/1000S. Spreed	:	+-	3.5
Tolerance cm3/1000 strokes Check tolerance	:		4.0
cm3/1000s.	:		6.0

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 04.12.95 Test oil : ISO 4113

Combination No. : 0 402 036 761

Injection pump

Pump designation : PES6P110A120RS3353

EP type number :

Governor

Governer design. : RQV450...1100PA1233K

Governer no. : 0 421 815 474

Cust. part No. : 3926886

Customer—spec. information
Customer : CDC
Motor : 6CTA

Power KW : 187.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 2 417 413 086

Inlet press. bar : 2.0 Tolerance bar : + 0.1

Test nozzle holde

assembly : 1 688 901 103

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter: 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

# BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : + 1.0

Prestroke mm : 3.60
Tolerance mm : +- 0.05

Check

tolerance mm :  $\leftarrow$  0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : + 0.30

Check

tolerance °NW : + 0.50

Start of delivery blocking

"NW after s.o.d. : 8.50

Tolerance :  $\leftarrow$  0.10

Check

tolerance °NW :  $\leftarrow$  0.23

Barrel no. : 1

Beginning of delivery differende

and maximum rack

travel : 13.00 Difference ° CS : 1.20

BASIC SETTING

Rated speed rpm : 1000

	+		
Rack travel in m Tolerance mm	n: 13.15 :+- 0.05		RY AT FULL LOAD STOP
Del. quantity cm3/1000 strokes	: 200.0	Rated speed rpm Aneroid pressure hPa Del. quantity	
Tolerance cm3/1000 strokes	: + 1.0	cm3/1000 strokes Tolerance cm3/1000 strokes	
Check tolerance cm3/1000s.	: +- 4.0	Check tolerance cm3/1000S. Spreed	: + 4.0
Spreed Tolerance cm3/1000 strokes	: 8.0	Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: 8.0 : 12.0
Check tolerance cm3/1000s.	: 12.0		. 12.0
Del. quantity cm3/1000 strokes Tolerance	: 21.5	CONTROL LEVER	
cm3/1000 strokes Check tolerance cm3/1000s.	: +- 3.0 : +- 5.0	position degree tolerance degree	: 110.0 : ← 4.0
Spreed Tolerance cm3/1000 strokes	+	RATED SPEED	: 11.30
Check tolerance cm3/1000s.	: 8.0	rack travel mm Rated speed rpm Tolerance 1/min	
(B) SETTING OF IN WITH GOVERNOR	JECTION PUMP	rack travel mm Rated speed rpm Tolerance 1/min	: 4.00 : 1265 : +- 15
GUIDE SLEEVE TRAV	/EL	rack travel mm Tolerance mm Rated speed rpm	: 0.50 : + 0.50 : 1325
Rated speed rpm guide sleeve travel mm	: 500		
Tolerance mm	: + 0.20	LOW IDLE	
Rated speed rpm guide sleeve travel mm Tolerance mm	: 1163 : 7.50 : + 0.15	control lever position degree tolerance degree	
Rated speed rpm guide sleeve	: 860	Testing:	
travel mm Tolerance mm	: 4.55 : +- 0.25	Rated speed rpm rack travel mm ' Tolerance mm	: 5.80
Rated speed rpm guide sleeve	: 1560	Rated speed rpm	
travel mm Tolerance mm	: 13.50 : +- 0.50	CRT mm min.	: > 7.40

Rated speed rpm	: 500	Rated speed rpm : 750  Del. quantity
TORQUE CONTROL		
Rated speed rpm	: 1000	+ cm3/1000 strokes : + 3.0 + Check tolerance
rack travel mm	: 13.15	+ cm3/1000s. : +- 6.0
Tolerance mm	: +- 0.05	+ Spreed + Tolerance
Rated speed rpm	: 750	- cm3/1000 strokes : 8.0
rack travel mm Tolerance mm		+ Check tolerance + cm3/1000S. : 12.0
Rated speed rpm	: 1100	Aneroid pressure
rack travel mm	: 12.45	hPa : 1200
Tolerance mm	: +- 0.10	+ Rated speed rpm : 1100 + Del. quantity
ANEROID/ALTITUDE COMPENSATOR TEST		+ Tolerance + cm3/1000 strokes : +- 3.0
		- Check tolerance
SETTING		$\pm$ cm3/1000s. : $\pm$ 6.0
02112140		Aneroid pressure
Rated speed rpm Pressure hPa	: 1000 : 1200	+ hPa : - Rated speed rpm : 1000
rressure nra	. 1200	+ Del. quantity
MEASUREMENT		+ cm3/1000 strokes : 121.0
Pressure hPa	: -	+ Tolerance + cm3/1000 strokes : +- 2.0
Rated speed rpm		+ Check tolerance
rack travel mm Tolerance mm	: 10.35 : + 0.20	± cm3/1000s. : ← 4.0
Rated speed rpm	: 1000	BREAKAWAY
Pressure hPa	: 890	+
rack travel mm	: 12.60	+ Rack travel in mm : 11.30 + Rated speed rpm : 1155
Tolerance mm	: <del>+</del> 0.30	+ Rated speed rpm : 1155 + Tolerance 1/min : + 15
Pressure hPa	: 720	+
rack travel mm Tolerance mm	: 11.15 : + 0.20	
1000. 4.100		STARTING FUEL DELIVERY
START CUT-OUT		Rated speed rpm : 100
		+ rack travel mm : 21.00
Rated speed rpm Rated speed rpm	: > 100 : < 380	Tolerance mm : + 0.50  Del. quantity
	500	+ cm3/1000 strokes : 161.0
Check	. > 00	Tolerance
speed 1/min Check	: > 80	cm3/1000 strokes : + 20.0 Check tolerance
speed 1/min	: < 390	cm3/1000s. : +- 25.0
FUEL DELIVERY CHA	ARACTERISTICS	
Aneroid pressure		LOW IDLE
hPa	: 1200	+

Del. quantity cm3/1000 strokes	:	21.5
Tolerance cm3/1000 strokes	: +-	3.0
Check tolerance cm3/1000s.	: +-	5.0
Spreed Tolerance		
cm3/1000 strokes Check tolerance	:	4.0
cm3/1000s.	:	8.0

#### Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 02.01.96 Test oil : ISO 4113

Combination No. : 0 400 074 892

Injection pump

Pump designation : PES4M55C32ORS167 EP type number : 0 410 054 960

Governor

Governer design. : RSF360/1900M70-7 Governer no. : 0 420 021 153

Cust. part No. : T8

Customer-spec. information

Customer : MB-NFZ

Motor : 0M601-D23 A,S,CH

Power KW : 58.0

## TEST BENCH REQUIREMENTS

Test oil inlet

temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 1 469 990 351

Inlet press. bar : 1.0

Test nozzle holde

assembly : 1 688 901 111

Opening pressure

bar : 148.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x Length mm : 600

#### **REMARKS**

(A) INJECTION PUMP SETTING VALUES Set equal delivery quant.

per values _____

## BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 2.05
Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 21.00 Tolerance mm : + 1.00

Firing order : 1-3-4-2

Phasing : 0-90-180-270

Start of delivery blocking

*NW after s.o.d. : 15.50 Tolerance : + 0.20

Check

tolerance °NW : +- 0.30

Barrel no. : 1

### BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 12.85
Tolerance mm : + 0.05

Del quantity

cm3/1000 strokes : 41.5

Tolerance

cm3/1000 strokes :  $\leftarrow$  0.5

Check tolerance

cm3/1000s. : +- 1.5

Spreed

Tolerance cm3/1000 strokes : 2.5	‡		
	+	SET IDLE CONTROL	LEVER POSITION
Check tolerance cm3/1000s. : 3.0	‡	Rated speed rpm	: 1000
Rated speed rpm : 335	Ī	CRT mm max.	: 1.45
Rack travel in mm: 5.20 Tolerance mm: + 0.10 Del. quantity	1	LOW IDLE	
cm3/1000 strokes : 6.5 Tolerance	+	control lever	
cm3/1000 strokes : + 0.5 Spreed Tolerance	1	position degree tolerance degree	
cm3/1000 strokes : 1.0	<u> </u>	Setting point w/o Rated speed rpm rack travel mm	: 335
(B) SETTING OF INJECTION PUMP	· I	rack travet min	. 5.20
WITH GOVERNOR	<u> </u>	SET IDLE AUXILIAR	Y SPRING
IDLE STAGE	<u>+</u>	Rated speed rpm rack travel mm Tolerance mm	
Rack travel in mm : 6.25 Tolerance mm : + 0.25	† † †	rack travel mm Rated speed rpm Tolerance 1/min	
FULL LOAD DELIVERY AT FULL LO	DAD STOP	Load pick-up	
Rated speed rpm : 1000 Ref. pressure	Ī	Rated speed rpm	: 250
ALDA / ADA hPa : 1100	+	CRT mm min.	: > 7.50
Del. quantity cm3/1000 strokes : 41.5 Tolerance	Ŧ	Rated speed rpm	: 1000
cm3/1000 strokes : + 0.5 Check tolerance	1	CRT mm max.	: 1.45
cm3/1000s. : + 1.5 Spreed	‡	rack travel mm Rated speed rpm	
Tolerance cm3/1000 strokes : 2.5	‡		
Check tolerance cm3/1000S. : 3.0	‡	TORQUE CONTROL	
RATED SPEED	+	Rated speed rpm rack travel mm Tolerance mm	: 12.85
control lever position degree : 50.0	† †	Rated speed rpm rack travel mm Tolerance mm	: 1400 : 12.35 : ← 0.15
rack travel mm : 7.25 Rated speed rpm : 2100	‡	Rated speed rpm rack travel mm	: 1900 : 11.55
rack travel mm : 0.50 Tolerance mm : + 0.50	‡	Tolerance mm	: <b>←</b> 0.15
Rated speed rpm : 2500	+	Rated speed rpm	: 500

rack travel mm Tolerance mm	: 12.15 : + 0.15	+ Check tolerance + cm3/1000s. : +- 2.0 + Spreed
Rated speed rpm rack travel mm	: 800 : 12.55	Tolerance cm3/1000 strokes : 2.5
Tolerance mm	: +- 0.15	+ Check tolerance + cm3/1000s. : 3.0
ADJUSTMENT TEST A	ADA/ALDA	Ref. pressure
SETTING		+ ALDA / ADA hPa : 1100 + Rated speed rpm : 500
Rated speed rpm	: 1000	+ Del. quantity + cm3/1000 strokes : 36.3
Ref. pressure ALDA / ADA hPa	: 950 : -0.10	Tolerance cm3/1000 strokes : + 0.8
rack travel mm Tolerance mm		+ Check tolerance + cm3/1000s. : + 1.8
MEASUREMENT		+ Tolerance + cm3/1000 strokes : 2.5 + Check tolerance
Rated speed rpm Ref. pressure		cm3/1000s. : 3.0
ALDA / ADA hPa rack travel mm	: 900 : -0.60	Ref. pressure ALDA / ADA hPa : 1100
Tolerance mm		Rated speed rpm : 800  Del. quantity
Rated speed rpm Ref. pressure	: 1000	cm3/1000 strokes : 39.3
ALDA / ADA hPa rack travel mm	: 750 : -2.00	cm3/1000 strokes : + 0.8 Check tolerance
Tolerance mm	: + 0.20	cm3/1000s. : +- 1.6
		Tolerance cm3/1000 strokes : 2.5
FUEL DELIVERY CHA	RACTERISTICS	Check tolerance cm3/1000s. : 3.0
Ref. pressure ALDA / ADA hPa	: 1100	‡
Rated speed rpm Del. quantity	: 1400	HIGH IDLE
cm3/1000 strokes Tolerance		Ref. pressure
cm3/1000 strokes Check tolerance		+ ALDA / ADA hPa : 1100
cm3/1000s. Spreed	: + 1.8	STARTING FUEL DELIVERY
Tolerance cm3/1000 strokes	: 2.5	Rated speed rpm : 100
Check tolerance cm3/1000s.	: 3.0	rack travel mm : 20.10  Del. quantity  cm3/1000 strokes : 52.0
Ref. pressure ALDA / ADA hPa	: 1100	+ cm3/1000 strokes : 52.0 + Spreed + Tolerance
Rated speed rpm Spreed		cm3/1000 strokes : 6.0 Check tolerance
Del. quantity cm3/1000 strokes	: 41.0	cm3/1000s. : 6.0
Tolerance cm3/1000 strokes		+

## LOW IDLE

Del. quantity

cm3/1000 strokes : 7.8

Check tolerance

cm3/1000s. 2.3

Spreed

Check tolerance

cm3/1000s. 1.5

## SETTING PNEUMATIC FAST IDLE (ELA)

control lever

position degree : 13.0 tolerance degree : +-2.0

## SETTING/TESTING ELECTRONIC IDLE REGULATION (ELR)

control lever

13.0 position degree . tolerance degree : + 2.0 Rated speed rpm : 360

Rack travel in mm : 13.00 : ← 0.70 Tolerance mm

Current A 1.80 :

control lever

position degree : 50.0

2500 Rated speed rpm :

Rack travel in mm: 0.50 Tolerance mm : **←** 0.50

Current short-

duration A 3.00

Starting test

Rated speed rpm 100

1.80 Current A :

### **ADJUSTMENT**

control lever

position degree : 50.0 TESTING PNEUMATIC SHUTOFF DEVICE

Rated speed rpm : 335

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil : 28.12.95 : ISO 4113

Combination No. : 0 400 463 121

Injection pump

Pump designation : PES3A80D410/3RS1324

EP type number : 0 410 483 017

Governor

Governer design. : RSV325...900A7C602

: -4L

Governer no.

: 0 420 232 604

Cust. part No. :

Customer-spec. information

Customer

: KHD

Motor

: F3L912

TEST BENCH REQUIREMENTS

Inlet line

: 1.3

Test oil inlet

temp. °C

40

Tolerance °C

Overflow valve

: 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde assembly

: 0 681 343 009

Opening pressure

bar

173.5

Tolerance bar

: +- 1.5

Test lines

: 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0

x length mm :

600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar: 26.0

Tolerance bar : +- 1.0

Prestroke mm : 1.95 : + 0.05Tolerance mm

Check

: <del>\</del> 0.10 tolerance mm

Rack travel in mm: 10.50

Tolerance mm : +- 1.50

Firing order : 1- 3- 2

: 0-120-240 Phasing

BASIC SETTING

088 Rated speed rpm

11.20 Rack travel in mm:

Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 50.5

Tolerance

cm3/1000 strokes : +-0.5

Check tolerance

cm3/1000s. : +-

Spreed

Tolerance

cm3/1000 strokes :

2.5

2.0

Check tolerance

cm3/1000s.

4.0

Rated speed rpm : 325	
†	rack travel mm : 4.00
Rack travel in mm: 8.40	Rated speed rpm : 960
Tolerance mm : + 0.10	Tolerance 1/min : + 15
Del. quantity + cm3/1000 strokes : 11.0 +	mode though the control of
Tolerance	rack travel mm : 0.85 Tolerance mm : +- 0.55
cm3/1000 strokes : + 1.5	Rated speed rpm : 1100
Check tolerance	rated speed thin . Itoo
cm3/1000s. : +- 3.5	rack travel mm : 4.00
Spreed	Rated speed rpm : 975
Tolerance	The second secon
cm3/1000 strokes : 4.0	
Check tolerance	
cm3/1000s. : 6.0	LOW IDLE
†	
(B) SETTING OF INJECTION PUMP	control lever
WITH GOVERNOR	position degree : 77.0
WITH GOAFWOX	tolerance degree : + 4.0
1	totol allie deglee 4.0
	Setting point w/out bumper spring
GUIDE SLEEVE POSITION	
+	Rated speed rpm : 325
Rated speed rpm : 800	rack travel mm : 7.90
Rack travel in mm: 0.50	Testing:
Tolerance mm : + 0.20	resering.
	Rated speed rpm : 325
1	rack travel mm : 8.40 Tolerance mm : + 0.10
FULL LOAD DELIVERY AT FULL LOAD STOP	Tolerance mm : + 0.10
	2.00
Rated speed rpm : 880	rack travel mm : 2.00
Aneroid pressure	Rated speed rpm : 450 Tolerance 1/min : +- 30
Del. quantity	roterance miniti
cm3/1000 strokes : 50.5	
Tolerance	TORQUE CONTROL
cm3/1000 strokes : +- 0.5	
Check tolerance	Rated speed rpm : 880
cm3/1000s. : +- 2.0 +	rack travel mm : 11.20
Spreed +	Tolerance mm : +- 0.05
Tolerance	500
cm3/1000 strokes : 2.5	Rated speed rpm : 500
Check tolerance + cm3/1000s. : 4.0	rack travel mm : 11.25 Tolerance mm : + 0.10
T 4.0	Totel affective . +- 0.10
1	
CONTROL LEVER +	
+	
control lever	DDEALVITAA
position degree : 108.0 + tolerance degree : + 4.0 +	BREAKAWAY
totel alike deglies 4.0	
RATED SPEED	Rack travel in mm : 10.20
+	Rated speed rpm : 925
rack travel mm : 10.20	Tolerance 1/min : +- 5
Rated speed rpm : 925	
Tolerance 1/min : + 5 +	

# STARTING FUEL DELIVERY

Rated speed rpm 100 rack travel mm 20.25 : **←** 0.75 Tolerance mm

Del. quantity

cm3/1000 strokes : 125.0

Tolerance

cm3/1000 strokes 7.5

Check tolerance

cm3/1000s. : + 10.0

# LOW IDLE

Rated speed rpm 325 rack travel mm 8.40 Tolerance mm 0.10 Del. quantity cm3/1000 strokes 11.0 Tolerance cm3/1000 strokes 1.5 Check tolerance cm3/1000s. 3.5 Spreed Tolerance cm3/1000 strokes 4.0 Check tolerance cm3/1000s. 6.0

### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 05.01.96 Test oil : ISO 4113

Combination No. : 0 400 075 925

Injection pump

Pump designation : PES5M55C32ORS201 EP type number : 0 410 055 972

Governor

Governer design. : RSF350/2500M56-13 Governer no. : 0 420 021 171

Cust. part No.

Customer-spec. information Customer : MB-PKW Motor : CM605 Power KW : 83.0

## TEST BENCH REQUIREMENTS

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 469 990 351

Inlet press. bar : 1.0

Test nozzle holde

assembly : 1 688 901 111

Opening pressure

bar : 148.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

#### REMARKS

(A) INJECTION PUMP SETTING VALUES Set equal delivery quant.

per values _____

# BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 1.75
Tolerance mm : + 0.05

Check

tolerance mm :  $\leftarrow$  0.10

Rack travel in mm : 21.00 Tolerance mm : + 1.00

Firing order : 1-2-4-5-3

Phasing : 0-72-144-216-288

Start of delivery blocking

*NW after s.o.d. : 16.50 Tolerance : + 0.20

Check

tolerance °NW : + 0.30

Barrel no. : 1

# BASIC SETTING

Rated speed rpm : 1400

Rack travel in mm : 12.75 Tolerance mm : + 0.05

Del. quantity cm3/1000 strokes : 37.0

Tolerance cm3/1000 strokes : +- 0.5

Check tolerance cm3/1000s. : +- 1.5

Spreed

Tolerance cm3/1000 strokes : 2.5	SET IDLE CONTROL LEVER POSITION
Check tolerance cm3/1000s. : 3.0	Rated speed rpm : 1400
Rated speed rpm : 350	CRT mm max. : 1.95
Rack travel in mm: 7.40 Tolerance mm: + 0.10 Del. quantity	LOW IDLE
cm3/1000 strokes : 8.5 Tolerance	Setting point w/out bumper spring Rated speed rpm : 350
cm3/1000 strokes : + 0.5 + Spreed	rack travel mm : 7.40
Tolerance + cm3/1000 strokes : 1.0 +	SET IDLE AUXILIARY SPRING
Ī	Rated speed rpm : 475 rack travel mm : 5.40
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	Tolerance mm : + 0.10
+	rack travel mm : _3.00
IDLE STAGE	Rated speed rpm : 700 Tolerance 1/min : +- 50
TOLE STAGE	Load pick-up
Rack travel in mm: 6.25	
Tolerance mm : + 0.25	Rated speed rpm : 250
FULL LOAD DELIVERY AT FULL LOAD STOP	CRT mm min. : > 10.00
+	Rated speed rpm : 1400
Rated speed rpm : 1400 + Ref. pressure + ALDA / ADA hPa : 1100 +	CRT mm max. : 1.95
Del. quantity	rack travel mm : 7.40
cm3/1000 strokes : 37.0	Rated speed rpm : 350
cm3/1000 strokes : + 0.5 + Check tolerance +	
cm3/1000s. : + 1.5 + Spreed	TORQUE CONTROL
Tolerance + cm3/1000 strokes : 2.5 +	Rated speed rpm : 1400 rack travel mm : 12.75
Check tolerance	rack travel mm : 12.75 Tolerance mm : +- 0.05
cm3/1000s. : 3.0	
+	Rated speed rpm : 2300
RATED SPEED	rack travel mm : 12.30 Tolerance mm : +- 0.15
RATED SPEED	Total drice limit
+	Rated speed rpm : 2500
control lever	rack travel mm : 11.90
position degree : 50.0	Tolerance mm : + 0.15
rack travel mm : 7.50 Rated speed rpm : 2700	ADJUSTMENT TEST ADA/ALDA
rack travel mm : 0.50	SETTING
Tolerance mm : + 0.50 + Rated speed rpm : 3150 +	Rated speed rpm : 1400

Ref. pressure		+
ALDA / ADA hPa rack travel mm Tolerance mm	: 940 : -0.10 : +- 0.10	STARTING FUEL DELIVERY
MEASUREMENT		Rated speed rpm : 100 rack travel mm : 21.60 Tolerance mm : + 1.50
Rated speed rpm Ref. pressure ALDA / ADA hPa rack travel mm Tolerance mm	: 1400 : 900 : -0.40 : +- 0.10	Del. quantity cm3/1000 strokes : 55.0 Tolerance cm3/1000 strokes : + 4.0 Check tolerance
Rated speed rpm Ref. pressure ALDA / ADA hPa	: 1400 : 750	+ cm3/1000s. : + 5.0 - Spreed - Tolerance - cm3/1000 strokes : 6.0
rack travel mm Tolerance mm	: -1.50 : +- 0.20	Check tolerance cm3/1000s. : 6.0
FUEL DELIVERY CHA	ARACTERISTICS	LOW IDLE
Ref. pressure ALDA / ADA hPa Rated speed rpm Del. quantity	: 1100 : 2300	+ Del. quantity + cm3/1000 strokes : 9.5 + Check tolerance
cm3/1000 strokes Tolerance		cm3/1000s. : +- 2.3 Spreed
cm3/1000 strokes Check tolerance cm3/1000s. Spreed	: +- 0.8 : +- 1.8	Check tolerance cm3/1000s. : 1.5
Tolerance cm3/1000 strokes Check tolerance		0.00
cm3/1000s. Ref. pressure	: 3.0	Grad : > 49.00 Grad : < 46.50
ALDA / ADA hPa Rated speed rpm Spreed	: 1100 : 2500	SETTING PNEUMATIC FAST IDLE (ELA)
Del. quantity cm3/1000 strokes Tolerance	: 38.0	Rated speed rpm : 400
cm3/1000 strokes Check tolerance	•	Rack travel in mm: 8.25 Tolerance mm: + 0.70
cm3/1000s. Spreed Tolerance	: +- 2.0	Del. quantity cm3/1000 strokes : 12.0 Tolerance
cm3/1000 strokes Check tolerance	-	cm3/1000 strokes : +- 3.5 Check tolerance
cm3/1000s.	: 3.0	- cm3/1000s. : + 4.5 - Vacuum hPa : 400.0
HIGH IDLE	-	SETTING/TESTING ELECTRONIC IDLE REGULATION (ELR)
Ref. pressure ALDA / ADA hPa	: 1100	Į.

control lever position degree :

50.0

ADJUSTMENT

control lever

position degree :

50.0

TESTING PNEUMATIC SHUTOFF DEVICE

Rated speed rpm

350

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 05.01.96 Test oil : ISO 4113

Combination No. : 0 400 075 926

Injection pump

Pump designation : PES5M55C32ORS201 EP type number : 0 410 055 972

Governor

Governer design. : RSF350/2500M75-3 : 0 420 021 173 Governer no.

Cust. part No.

Customer-spec. information Customer : MB-PKW : 0M605 Motor Power KW : 83.0

### TEST BENCH REQUIREMENTS

Test oil inlet

temp. °C 40 Tolerance °C 2.0

Overflow valve : 1 469 990 351

Inlet press. bar : 1.0

Test nozzle holde

: 1 688 901 111 assembly

Opening pressure

148.5 bar Tolerance bar : +- 1.5

Test Lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0 600 x length mm :

#### REMARKS

(A) INJECTION PUMP SETTING VALUES Set equal delivery quant. per values ____

#### BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar :  $\leftarrow$  1.0

1.75 Prestroke mm : +- 0.05 Tolerance mm

Check

tolerance mm : + 0.10

Rack travel in mm : 21.00 Tolerance mm : +- 1.00

Firing order : 1-2-4-5-3

Phasing : 0-72-144-216-288

Start of delivery blocking

*NW after s.o.d. : 16.50 : +- 0.20 Tolerance

Check

tolerance °NW : +- 0.30

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 1400

Rack travel in mm: 12.75 Tolerance mm : + 0.05

Del. quantity cm3/1000 strokes : 37.0

Tolerance

cm3/1000 strokes : +- 0.5

Check tolerance cm3/1000S. : +- 1.5

E10

Spreed Tolerance cm3/1000 strokes : 2.5	Rated speed rpm : 3150
	SET IDLE CONTROL LEVER POSITION
Check tolerance cm3/1000S. : 3.0	Rated speed rpm : 1400
Rated speed rpm : 350	CRT mm max. : 1.95
Rack travel in mm : 7.40 Tolerance mm : + 0.10 Del. quantity	LOW IDLE
<pre>cm3/1000 strokes : 8.5 Tolerance cm3/1000 strokes : + 0.5</pre>	Setting point w/out bumper spring Rated speed rpm : 350 rack travel mm : 7.40
Spreed Tolerance	SET IDLE AUXILIARY SPRING
cm3/1000 strokes : 1.0	Rated speed rpm : 475 rack travel mm : 5.40
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	Tolerance mm : + 0.10  rack travel mm : 3.00
IDLE STAGE	Rated speed rpm : 700 Tolerance 1/min : + 50
Rack travel in mm : 6.25	Load pick-up
Tolerance mm : +- 0.25	Rated speed rpm : 250
FULL LOAD DELIVERY AT FULL LOAD STOP	- + CRT mm min. : > 10.00
Rated speed rpm : 1400	Rated speed rpm : 1400  CRT mm max. : 1.95
Ref. pressure ALDA / ADA hPa : 1100 Del. quantity	+ CRT mm max. : 1.95 + rack travel mm : 7.40
cm3/1000 strokes : 37.0 Tolerance	Rated speed rpm : 350
cm3/1000 strokes : + 0.5 Check tolerance	TODOUE CONTROL
cm3/1000s. : + 1.5 Spreed Tolerance	TORQUE CONTROL Rated speed rpm : 1400
cm3/1000 strokes : 2.5 Check tolerance	rack travel mm : 12.75 Tolerance mm : + 0.05
cm3/1000s. : 3.0	Rated speed rpm : 2300
RATED SPEED	rack travel mm : 12.30 Tolerance mm : + 0.15
control lever position degree : 50.0	Rated speed rpm : 2500 rack travel mm : 11.90 Tolerance mm : + 0.15
rack travel mm : 7.50 Rated speed rpm : 2700	ADJUSTMENT TEST ADA/ALDA
rack travel mm : 0.50 Tolerance mm : +- 0.50	SETTING

Rated speed rpm Ref. pressure ALDA / ADA hPa rack travel mm	: 1400 : 940 : -0.10	Ref. pressure ALDA / ADA hPa : 1100
Tolerance mm	: +- 0.10	+ STARTING FUEL DELIVERY
MEASUREMENT		Rated speed rpm : 100 rack travel mm : 21.60
Rated speed rpm Ref. pressure		Tolerance mm : + 1.50  Del. quantity
ALDA / ADA hPa rack travel mm	: 900 : -0.40	cm3/1000 strokes : 55.0 Tolerance cm3/1000 strokes : + 4.0
Tolerance mm	: + 0.10	- Check tolerance
Rated speed rpm Ref. pressure	: 1400	cm3/1000s. : +- 5.0 Spreed
ALDA / ADA hPa rack travel mm	: 750 : -1.50	Tolerance cm3/1000 strokes : 6.0
Tolerance mm	: + 0.20	Check tolerance cm3/1000s. : 6.0
***************************************		
FUEL DELIVERY CHA	ARACTERISTICS	<u> </u>
Ref. pressure	. 1100	LOW IDLE
ALDA / ADA hPa Rated speed rpm	: 1100 : 2300	Del. quantity
Del. quantity cm3/1000 strokes	: 39.3	cm3/1000 strokes : 9.5 Check tolerance
Tolerance		+ cm3/1000s. : +- 2.3
cm3/1000 strokes Check tolerance	: + 0.8	+ Spreed + Check tolerance
cm3/1000S. Spreed	: + 1.8	cm3/1000s. : 1.5
Tolerance	: 2.5	+
cm3/1000 strokes Check tolerance	: 2.3	<del></del>
cm3/1000s.	: 3.0	+ Grad :> 49.00
Ref. pressure	. 4400	+
ALDA / ADA hPa Rated speed rpm Spreed	: 1100 : 2500	+ Grad : < 46.50
Del. quantity	70.0	SETTING PNEUMATIC FAST IDLE (ELA)
cm3/1000 strokes Tolerance	: 38.0	Rated speed rpm : 400
cm3/1000 strokes	: + 1.0	+
Check tolerance cm3/1000S. Spreed	: +- 2.0	+ Rack travel in mm: 8.25 + Tolerance mm: + 0.70 + Del. quantity
Tolerance	. 25	+ cm3/1000 strokes : 12.0
cm3/1000 strokes Check tolerance		+ Tolerance + cm3/1000 strokes : +- 3.5
cm3/1000s.	: 3.0	+ Check tolerance + cm3/1000s. : +- 4.5
		Vacuum hPa : 400.0
HIGH IDLE		SETTING/TESTING ELECTRONIC IDLE
		REGULATION (ELR)

control lever position degree :

50.0

**ADJUSTMENT** 

control lever

position degree

50.0

Rated speed rpm rack travel mm

1400

1.70

Tolerance mm

: **←** 0.15

TESTING PNEUMATIC SHUTOFF DEVICE

Rated speed rpm

350

### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 04.01.96 Test oil : ISO 4113

Combination No. : 0 400 076 954

Injection pump

Pump designation : PES6M55C32DRS203 EP type number : 0 410 056 982

Governor

Governer design. : RSF315/2500M70-10 : 0 420 021 175 Governer no.

Cust. part No.

Customer-spec. information Customer : MB-PKW Motor : 0M606 Power KW : 100.0

# TEST BENCH REQUIREMENTS

Test oil inlet

temp. °C Tolerance °C 2.0

Overflow valve : 1 469 990 351

Inlet press. bar : 1.0

Test nozzle holde

: 1 688 901 111 assembly

Opening pressure

148.5 Tolerance bar : +- 1.5

: 1 680 750 014 Test lines

Outside diameter : 6.0

x inside diameter: 2.0 600 x length mm :

#### **REMARKS**

(A) INJECTION PUMP SETTING VALUES Set equal delivery quant. per values _____

## BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : + 1.0

Prestroke mm 1.75 : + 0.05 Tolerance mm Check

: + 0.10 tolerance mm

Rack travel in mm: 21.00 Tolerance mm : + 1.00

: 1-5-3-6-2-Firing order

: 4

: 0-60-120-180-240 Phasing

: -300

Start of delivery blocking

*NW after s.o.d. : 16.50 Tolerance : + 0.20Check

tolerance °NW : + 0.30

Barrel no. : 1

# BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 13.35 Tolerance mm : +- 0.05

Del. quantity cm3/1000 strokes : 39.0

Tolerance cm3/1000 strokes : +- 0.5

Check tolerance cm3/1000s. : + 1.5

Spreed

Tolerance cm3/1000 strokes : 2.5	†
	SET IDLE CONTROL LEVER POSITION
Check tolerance cm3/1000s. : 3.0	Rated speed rpm : 1100
Rated speed rpm : 290	CRT mm max. : 1.95
Rack travel in mm : 7.30 Tolerance mm : +- 0.10 Del. quantity	LOW IDLE
cm3/1000 strokes : 8.5 Tolerance	the control lever
cm3/1000 strokes : + 0.5 Spreed Tolerance	position degree : 10.5 tolerance degree : + 2.0
cm3/1000 strokes : 1.0	Setting point w/out bumper spring Rated speed rpm : 290 rack travel mm : 7.30
(B) SETTING OF INJECTION PUMP	+
WITH GOVERNOR	SET IDLE AUXILIARY SPRING
IDLE STAGE	Rated speed rpm : 400 rack travel mm : 6.00 Tolerance mm : + 0.10
Rack travel in mm: 6.25 Tolerance mm: : + 0.25	rack travel mm : 3.00 Rated speed rpm : 700 Tolerance 1/min : + 50
FULL LOAD DELIVERY AT FULL LOAD STOP	Load pick-up
Rated speed rpm : 1100 Ref. pressure	Rated speed rpm : 220
ALDA / ADA hPa : 1100 Del. quantity	CRT mm min. : 9.90
cm3/1000 strokes : 39.0 Tolerance	Rated speed rpm : 1100
cm3/1000 strokes : ← 0.5 Check tolerance	CRT mm max. : 1.95
cm3/1000s. : + 1.5 Spreed	rack travel mm : 7.30 Rated speed rpm : 290
Tolerance cm3/1000 strokes : 2.5	Ŧ
Check tolerance cm3/1000s. : 3.0	TORQUE CONTROL
RATED SPEED	Rated speed rpm : 1100 rack travel mm : 13.35 Tolerance mm : + 0.05
control lever position degree : 50.0	Rated speed rpm : 2000 rack travel mm : 12.75 Tolerance mm : + 0.15
rack travel mm : 8.70 Rated speed rpm : 2700	+ Rated speed rpm : 2500 - rack travel mm : 12.25
rack travel mm : 1.00 Tolerance mm : + 1.00	Tolerance mm : +- 0.15
Rated speed rpm : 3000	Rated speed rpm : 500

rack travel mm : 12.50	+ Check tolerance
Tolerance mm : $+$ 0.15	+ cm3/1000s. : + 2.0
	+ Spreed
Rated speed rpm : 900	+ Tolerance
rack travel mm : 13.10	+ cm3/1000 strokes : 2.5
Tolerance mm : $+$ 0.15	+ Check tolerance
	+ cm3/1000s. : 3.0
ADJUSTMENT TEST ADA/ALDA	Ref. pressure
ADDOUTHER TEST ADATAEDA	ALDA / ADA hPa : 1100
SETTING	+ Rated speed rpm : 500
OFILTIAG	Pol guantity
Rated speed rpm : 1100	+ Del. quantity + cm3/100D strokes : 32.9
	Toloronos 52.9
Ref. pressure	+ Tolerance
ALDA / ADA hPa : 940	+ cm3/1000 strokes : + 0.8
rack travel mm : -0.10	+ Check tolerance
Tolerance mm : +- 0.10	+ cm3/1000s. : +- 1.8
	† Tolerance
MEASUREMENT	+ cm3/1000 strokes : 2.5
	+ Check tolerance
Rated speed rpm : 1100	Tolerance - cm3/1000 strokes : 2.5 - Check tolerance - cm3/1000s. : 3.0  Ref. pressure - ALDA / ADA hPa : 1100 - Rated speed rpm : 500 - Del. quantity - cm3/1000 strokes : 32.9 - Tolerance - cm3/1000 strokes : + 0.8 - Check tolerance - cm3/1000 strokes : 2.5 - Check tolerance - cm3/1000s. : 3.0  Ref. pressure - ALDA / ADA hPa : 1100 - Rated speed rpm : 900 - Del. quantity - cm3/1000 strokes : 37.3 - Tolerance - cm3/1000 strokes : 40.8 - Check tolerance - cm3/1000 strokes : 37.3 - Tolerance - cm3/1000 strokes : + 0.8 - Check tolerance - cm3/1000 strokes : + 0.8 - Check tolerance
Ref. pressure	1
ALDA / ADA hPa : 900	Ref. pressure
rack travel mm : -0.40	ALDA / ADA hPa : 1100
Tolerance mm : +- 0.10	Rated speed rpm : 900
70to, artoc inn	+ Del. quantity
Rated speed rpm : 1100	+ cm3/1000 strokes : 37.3
Ref. pressure	Tolerance
ALDA / ADA hPa : 750	= cm3/1000 strokes : + 0.8
ALDA / ADA hPa : 750 rack travel mm : -1.50	+ Check tolerance
	+ cm3/1000s. : + 1.8
Tolerance mm : + 0.20	+ CM3/10005, . T- (.0
	Spreed
	Spreed Tolerance
	Spreed Tolerance cm3/1000 strokes: 2.5
FUEL DELIVERY CHARACTERISTICS	Spreed Tolerance cm3/1000 strokes : 2.5 Check tolerance
	Spreed Tolerance cm3/1000 strokes: 2.5
Ref. pressure	Spreed Tolerance cm3/1000 strokes : 2.5 Check tolerance
Ref. pressure ALDA / ADA hPa : 1100	Spreed Tolerance cm3/1000 strokes : 2.5 Check tolerance
Ref. pressure	Spreed Tolerance cm3/1000 strokes : 2.5 Check tolerance
Ref. pressure ALDA / ADA hPa : 1100 Rated speed rpm : 2000	Spreed Tolerance cm3/1000 strokes : 2.5 Check tolerance
Ref. pressure ALDA / ADA hPa : 1100 Rated speed rpm : 2000 Del. quantity	Spreed Tolerance cm3/1000 strokes: 2.5 Check tolerance cm3/1000s. : 3.0
Ref. pressure ALDA / ADA hPa : 1100 Rated speed rpm : 2000 Del. quantity cm3/1000 strokes : 40.1	Spreed Tolerance cm3/1000 strokes: 2.5 Check tolerance cm3/1000s. : 3.0  HIGH IDLE
Ref. pressure ALDA / ADA hPa : 1100 Rated speed rpm : 2000 Del. quantity cm3/1000 strokes : 40.1 Tolerance	Spreed Tolerance cm3/1000 strokes: 2.5 Check tolerance cm3/1000s. : 3.0  HIGH IDLE  Ref. pressure
Ref. pressure ALDA / ADA hPa : 1100 Rated speed rpm : 2000 Del. quantity cm3/1000 strokes : 40.1 Tolerance cm3/1000 strokes : +- 0.8	Spreed Tolerance cm3/1000 strokes: 2.5 Check tolerance cm3/1000s. : 3.0  HIGH IDLE
Ref. pressure ALDA / ADA hPa : 1100 Rated speed rpm : 2000 Del. quantity cm3/1000 strokes : 40.1 Tolerance cm3/1000 strokes : +- 0.8 Check tolerance	Spreed Tolerance cm3/1000 strokes: 2.5 Check tolerance cm3/1000s. : 3.0  HIGH IDLE  Ref. pressure
Ref. pressure ALDA / ADA hPa : 1100 Rated speed rpm : 2000 Del. quantity cm3/1000 strokes : 40.1 Tolerance cm3/1000 strokes : +- 0.8 Check tolerance cm3/1000s. : +- 1.8	Spreed Tolerance cm3/1000 strokes : 2.5 Check tolerance cm3/1000s. : 3.0  HIGH IDLE  Ref. pressure ALDA / ADA hPa : 1100
Ref. pressure ALDA / ADA hPa : 1100 Rated speed rpm : 2000 Del. quantity cm3/1000 strokes : 40.1 Tolerance cm3/1000 strokes : +- 0.8 Check tolerance cm3/1000s. : +- 1.8 Spreed	Spreed Tolerance cm3/1000 strokes: 2.5 Check tolerance cm3/1000s. : 3.0  HIGH IDLE  Ref. pressure
Ref. pressure ALDA / ADA hPa : 1100 Rated speed rpm : 2000 Del. quantity cm3/1000 strokes : 40.1 Tolerance cm3/1000 strokes : +- 0.8 Check tolerance cm3/1000s. : +- 1.8 Spreed Tolerance	Spreed Tolerance cm3/1000 strokes : 2.5 Check tolerance cm3/1000s. : 3.0  HIGH IDLE  Ref. pressure ALDA / ADA hPa : 1100  STARTING FUEL DELIVERY
Ref. pressure ALDA / ADA hPa : 1100 Rated speed rpm : 2000 Del. quantity cm3/1000 strokes : 40.1 Tolerance cm3/1000 strokes : +- 0.8 Check tolerance cm3/1000s. : +- 1.8 Spreed Tolerance cm3/1000 strokes : 2.5	Spreed Tolerance cm3/1000 strokes : 2.5 Check tolerance cm3/1000s. : 3.0  HIGH IDLE  Ref. pressure ALDA / ADA hPa : 1100  STARTING FUEL DELIVERY  Rated speed rpm : 100
Ref. pressure ALDA / ADA hPa : 1100 Rated speed rpm : 2000 Del. quantity cm3/1000 strokes : 40.1 Tolerance cm3/1000 strokes : +- 0.8 Check tolerance cm3/1000s. : +- 1.8 Spreed Tolerance cm3/1000 strokes : 2.5 Check tolerance	Spreed Tolerance cm3/1000 strokes : 2.5 Check tolerance cm3/1000s. : 3.0  HIGH IDLE  Ref. pressure ALDA / ADA hPa : 1100  STARTING FUEL DELIVERY  Rated speed rpm : 100 rack travel mm : 21.60
Ref. pressure ALDA / ADA hPa : 1100 Rated speed rpm : 2000 Del. quantity cm3/1000 strokes : 40.1 Tolerance cm3/1000 strokes : +- 0.8 Check tolerance cm3/1000s. : +- 1.8 Spreed Tolerance cm3/1000 strokes : 2.5	Spreed Tolerance cm3/1000 strokes: 2.5 Check tolerance cm3/1000s. : 3.0  HIGH IDLE  Ref. pressure ALDA / ADA hPa : 1100  STARTING FUEL DELIVERY  Rated speed rpm : 100 rack travel mm : 21.60 Tolerance mm : + 1.50
Ref. pressure ALDA / ADA hPa : 1100 Rated speed rpm : 2000 Del. quantity cm3/1000 strokes : 40.1 Tolerance cm3/1000 strokes : +- 0.8 Check tolerance cm3/1000s. : +- 1.8 Spreed Tolerance cm3/1000 strokes : 2.5 Check tolerance cm3/1000 strokes : 3.0	Spreed Tolerance cm3/1000 strokes: 2.5 Check tolerance cm3/1000s. : 3.0  HIGH IDLE  Ref. pressure ALDA / ADA hPa : 1100  STARTING FUEL DELIVERY  Rated speed rpm : 100 rack travel mm : 21.60 Tolerance mm : + 1.50 Del. quantity
Ref. pressure ALDA / ADA hPa : 1100 Rated speed rpm : 2000 Del. quantity cm3/1000 strokes : 40.1 Tolerance cm3/1000 strokes : +- 0.8 Check tolerance cm3/1000s. : +- 1.8 Spreed Tolerance cm3/1000 strokes : 2.5 Check tolerance cm3/1000 strokes : 3.0 Ref. pressure	Spreed Tolerance cm3/1000 strokes: 2.5 Check tolerance cm3/1000s. : 3.0  HIGH IDLE  Ref. pressure ALDA / ADA hPa : 1100  STARTING FUEL DELIVERY  Rated speed rpm : 100 rack travel mm : 21.60 Tolerance mm : + 1.50 Del. quantity cm3/1000 strokes : 59.0
Ref. pressure ALDA / ADA hPa : 1100 Rated speed rpm : 2000 Del. quantity cm3/1000 strokes : 40.1 Tolerance cm3/1000 strokes : +- 0.8 Check tolerance cm3/1000s. : +- 1.8 Spreed Tolerance cm3/1000 strokes : 2.5 Check tolerance cm3/1000 strokes : 3.0 Ref. pressure ALDA / ADA hPa : 1100	Tolerance cm3/1000 strokes : 2.5 Check tolerance cm3/1000s. : 3.0  HIGH IDLE  Ref. pressure ALDA / ADA hPa : 1100  STARTING FUEL DELIVERY  Rated speed rpm : 100 rack travel mm : 21.60 Tolerance mm : + 1.50 Del. quantity cm3/1000 strokes : 59.0 Tolerance
Ref. pressure ALDA / ADA hPa : 1100 Rated speed rpm : 2000 Del. quantity cm3/1000 strokes : 40.1 Tolerance cm3/1000 strokes : +- 0.8 Check tolerance cm3/1000s. : +- 1.8 Spreed Tolerance cm3/1000 strokes : 2.5 Check tolerance cm3/1000 strokes : 3.0  Ref. pressure ALDA / ADA hPa : 1100 Rated speed rpm : 2500	Spreed Tolerance cm3/1000 strokes : 2.5 Check tolerance cm3/1000s. : 3.0  HIGH IDLE  Ref. pressure ALDA / ADA hPa : 1100  STARTING FUEL DELIVERY  Rated speed rpm : 100 rack travel mm : 21.60 Tolerance mm : + 1.50 Del. quantity cm3/1000 strokes : 59.0 Tolerance cm3/1000 strokes : +- 4.0
Ref. pressure ALDA / ADA hPa : 1100 Rated speed rpm : 2000 Del. quantity cm3/1000 strokes : 40.1 Tolerance cm3/1000 strokes : +- 0.8 Check tolerance cm3/1000s. : +- 1.8 Spreed Tolerance cm3/1000 strokes : 2.5 Check tolerance cm3/1000 strokes : 3.0  Ref. pressure ALDA / ADA hPa : 1100 Rated speed rpm : 2500 Spreed	Spreed Tolerance cm3/1000 strokes : 2.5 Check tolerance cm3/1000s. : 3.0  HIGH IDLE  Ref. pressure ALDA / ADA hPa : 1100  STARTING FUEL DELIVERY  Rated speed rpm : 100 rack travel mm : 21.60 Tolerance mm : + 1.50 Del. quantity cm3/1000 strokes : 59.0 Tolerance cm3/1000 strokes : +- 4.0 Check tolerance
Ref. pressure ALDA / ADA hPa : 1100 Rated speed rpm : 2000 Del. quantity cm3/1000 strokes : 40.1 Tolerance cm3/1000 strokes : +- 0.8 Check tolerance cm3/1000s. : +- 1.8 Spreed Tolerance cm3/1000 strokes : 2.5 Check tolerance cm3/1000 strokes : 3.0  Ref. pressure ALDA / ADA hPa : 1100 Rated speed rpm : 2500 Spreed Del. quantity	Tolerance cm3/1000 strokes: 2.5 Check tolerance cm3/1000s. : 3.0  HIGH IDLE  Ref. pressure ALDA / ADA hPa : 1100  STARTING FUEL DELIVERY  Rated speed rpm : 100 rack travel mm : 21.60 Tolerance mm : + 1.50 Del. quantity cm3/1000 strokes : 59.0 Tolerance cm3/1000 strokes : + 4.0 Check tolerance cm3/1000s. : + 5.0
Ref. pressure ALDA / ADA hPa : 1100 Rated speed rpm : 2000 Del. quantity cm3/1000 strokes : 40.1 Tolerance cm3/1000 strokes : +- 0.8 Check tolerance cm3/1000s. : +- 1.8 Spreed Tolerance cm3/1000 strokes : 2.5 Check tolerance cm3/1000s. : 3.0  Ref. pressure ALDA / ADA hPa : 1100 Rated speed rpm : 2500 Spreed Del. quantity cm3/1000 strokes : 39.5	Spreed Tolerance cm3/1000 strokes : 2.5 Check tolerance cm3/1000s. : 3.0  HIGH IDLE  Ref. pressure ALDA / ADA hPa : 1100  STARTING FUEL DELIVERY  Rated speed rpm : 100 rack travel mm : 21.60 Tolerance mm : + 1.50 Del. quantity cm3/1000 strokes : 59.0 Tolerance cm3/1000 strokes : + 4.0 Check tolerance cm3/1000s. : + 5.0 Spreed
Ref. pressure ALDA / ADA hPa : 1100 Rated speed rpm : 2000 Del. quantity cm3/1000 strokes : 40.1 Tolerance cm3/1000 strokes : +- 0.8 Check tolerance cm3/1000s. : +- 1.8 Spreed Tolerance cm3/1000 strokes : 2.5 Check tolerance cm3/1000s. : 3.0  Ref. pressure ALDA / ADA hPa : 1100 Rated speed rpm : 2500 Spreed Del. quantity cm3/1000 strokes : 39.5 Tolerance	Spreed Tolerance cm3/1000 strokes : 2.5 Check tolerance cm3/1000s. : 3.0  HIGH IDLE  Ref. pressure ALDA / ADA hPa : 1100  STARTING FUEL DELIVERY  Rated speed rpm : 100 rack travel mm : 21.60 Tolerance mm : + 1.50 Del. quantity cm3/1000 strokes : 59.0 Tolerance cm3/1000 strokes : +- 4.0 Check tolerance cm3/1000s. : +- 5.0 Spreed Tolerance
Ref. pressure ALDA / ADA hPa : 1100 Rated speed rpm : 2000 Del. quantity cm3/1000 strokes : 40.1 Tolerance cm3/1000 strokes : +- 0.8 Check tolerance cm3/1000s. : +- 1.8 Spreed Tolerance cm3/1000 strokes : 2.5 Check tolerance cm3/1000s. : 3.0  Ref. pressure ALDA / ADA hPa : 1100 Rated speed rpm : 2500 Spreed Del. quantity cm3/1000 strokes : 39.5	Spreed Tolerance cm3/1000 strokes : 2.5 Check tolerance cm3/1000s. : 3.0  HIGH IDLE  Ref. pressure ALDA / ADA hPa : 1100  STARTING FUEL DELIVERY  Rated speed rpm : 100 rack travel mm : 21.60 Tolerance mm : + 1.50 Del. quantity cm3/1000 strokes : 59.0 Tolerance cm3/1000 strokes : + 4.0 Check tolerance cm3/1000s. : + 5.0 Spreed
Ref. pressure ALDA / ADA hPa : 1100 Rated speed rpm : 2000 Del. quantity cm3/1000 strokes : 40.1 Tolerance cm3/1000 strokes : +- 0.8 Check tolerance cm3/1000s. : +- 1.8 Spreed Tolerance cm3/1000 strokes : 2.5 Check tolerance cm3/1000s. : 3.0  Ref. pressure ALDA / ADA hPa : 1100 Rated speed rpm : 2500 Spreed Del. quantity cm3/1000 strokes : 39.5 Tolerance	Spreed Tolerance cm3/1000 strokes : 2.5 Check tolerance cm3/1000s. : 3.0  HIGH IDLE  Ref. pressure ALDA / ADA hPa : 1100  STARTING FUEL DELIVERY  Rated speed rpm : 100 rack travel mm : 21.60 Tolerance mm : +- 1.50 Del. quantity cm3/1000 strokes : 59.0 Tolerance cm3/1000 strokes : +- 4.0 Check tolerance cm3/1000s. : +- 5.0 Spreed Tolerance

Check tolerance 8.5 cm3/1000s.

LOW IDLE

290 Rated speed rpm rack travel mm 7.50 Tolerance mm : + 0.15Del. quantity

cm3/1000 strokes : 9.5

Check tolerance cm3/1000s. 2.3 Spreed

Check tolerance

cm3/1000s. 1.5

SETTING PNEUMATIC FAST IDLE (ELA)

control lever

position degree : 10.5 tolerance degree : +-2.0

SETTING/TESTING ELECTRONIC IDLE REGULATION (ELR)

control lever

10.5 position degree tolerance degree : +-2.0 Rated speed rpm 315

Rack travel in mm : 13.20 : + 0.70 Tolerance mm

Del. quantity cm3/1000 strokes : 34.0

Tolerance

cm3/1000 strokes : +-3.5

Current A : 1.80

control lever

position degree : 50.0 Rated speed rpm : 3000

Rack travel in mm : 1.00 Tolerance mm : +- 1.00

Current short-

3.00 duration A

Starting test

Rated speed rpm : 100

1.80 Current A :

**ADJUSTMENT** 

control lever

position degree : 50.0

TESTING PNEUMATIC SHUTOFF DEVICE

Rated speed rpm : 290

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 05.01.96 Test oil : ISO 4113

Combination No. : 0 400 076 955

Injection pump

Pump designation : PES6M55C32ORS2O3 EP type number : 0 410 056 982

Governor

Governer design. : RSF315/2500M76 Governer no. : 0 420 021 174

Cust. part No.

Customer—spec. information Customer : MB-PKW Motor : 0M606

Power KW : 100.0

## TEST BENCH REQUIREMENTS

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 469 990 351

Inlet press. bar : 1.0

Test nozzle holde

assembly : 1 688 901 111

Opening pressure

bar : 148.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

# **REMARKS**

(A) INJECTION PUMP SETTING VALUES Set equal delivery quant. per values _____

## BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 1.75
Tolerance mm : + 0.05
Check

tolerance mm : +- 0.10

Rack travel in mm : 21.00 Tolerance mm : + 1.00

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Start of delivery blocking

"NW after s.o.d. : 16.50 Tolerance :  $\leftarrow 0.20$ 

Check

tolerance °NW : + 0.30

Barrel no. : 1

#### BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 13.35 Tolerance mm : + 0.05

Del. quantity cm3/1000 strokes : 39.0

Tolerance cm3/1000 strokes : + 0.5

Check tolerance cm3/1000s. : + 1.5

Spreed

Tolerance cm3/1000 strokes : 2.5	- SET IDLE CONTROL LEVER POSITION
Check tolerance cm3/1000s. : 3.0	- Rated speed rpm : 1100
Rated speed rpm : 300	- CRT mm max. : 1.95
Rack travel in mm: 7.30 Tolerance mm: +- 0.10 Del. quantity	- LOW IDLE
cm3/1000 strokes : 8.5	-
Tolerance cm3/1000 strokes : +- 0.5 Spreed Tolerance	control lever position degree : 10.5 tolerance degree : +- 2.0
cm3/1000 strokes : 1.0	Setting point w/out bumper spring Rated speed rpm : 300 rack travel mm : 7.30
(B) SETTING OF INJECTION PUMP	-
WITH GOVERNOR	- SET IDLE AUXILIARY SPRING
IDLE STAGE	Rated speed rpm : 400 rack travel mm : 6.00 Tolerance mm : + 0.10
Rack travel in mm: 6.25 Tolerance mm: + 0.25	rack travel mm : 3.00 Rated speed rpm : 700 Tolerance 1/min : + 50
FULL LOAD DELIVERY AT FULL LOAD STOP	- Load pick-up
Rated speed rpm : 1100 + Ref. pressure +	Rated speed rpm : 220
ALDA / ADA hPa : 1100 Del. quantity	CRT mm min. : 9.80
cm3/1000 strokes : 39.0	Rated speed rpm : 1100
cm3/1000 strokes : + 0.5 Check tolerance	CRT mm max. : 1.95
cm3/1000s. : + 1.5 +	rack travel mm : 7.30 Rated speed rpm : 300
Tolerance cm3/1000 strokes : 2.5	
Check tolerance cm3/1000s. : 3.0	TORQUE CONTROL
RATED SPEED	Rated speed rpm : 1100 rack travel mm : 13.35 Tolerance mm : + 0.05
control lever position degree : 50.0	Rated speed rpm : 2000 rack travel mm : 12.75 Tolerance mm : + 0.15
rack travel mm : 8.70 Rated speed rpm : 2700	Rated speed rpm : 2500 rack travel mm : 12.25
rack travel mm : 1.00 Tolerance mm : + 1.00 Rated speed rpm : 3000	Tolerance mm : +- 0.15  Rated speed rpm : 500

rack travel mm	: 12.50	+ Check tolerance	
Tolerance mm	: + 0.15	+ cm3/1000S. : +- 2.0 + Spreed	
Rated speed rpm	: 900 : 13.10	Tolerance cm3/1000 strokes : 2.5	
rack travel mm Tolerance mm	: + 0.15	Check tolerance	
		± cm3/1000s. : 3.0	
ADJUSTMENT TEST	ADA/ALDA	Ref. pressure	
SETTING		+ ALDA / ADA hPa : 1100 + Rated speed rpm : 500 + Del. quantity	
Rated speed rpm	: 1100	cm3/1000 strokes : 32.6 Tolerance	
Ref. pressure ALDA / ADA hPa	: 940	+ cm3/1000 strokes : + 0.8	
rack travel mm	: -0.10	+ Check tolerance	
Tolerance mm	: +- 0.10	+ cm3/1000s. : +- 1.8	
MEASUREMENT		+ Tolerance + cm3/1000 strokes : 2.5	
112/10/11/21/1		+ Check tolerance	
Rated speed rpm Ref. pressure	: 1100	cm3/1000s. : 3.0	
ALDA / ADA hPa		+ Ref. pressure	
rack travel mm	: -0.40 : +- 0.10	+ ALDA / ADA hPa : 1100 + Rated speed rpm : 900	
Tolerance mm	: 0.10	+ Rated speed rpm : 900 + Del. quantity	
Rated speed rpm	: 1100	- cm3/1000 strokes : 36.9	
Ref. pressure	750	+ Tolerance	
ALDA / ADA hPa rack travel mm	: 750 : -1.50	cm3/1000 strokes : + 0.8 Check tolerance	
Tolerance mm	: +- 0.20	- cm3/1000s. : + 1.8	
		Spreed	
		+ Tolerance	
FUEL DELIVERY CHA	APACTERISTICS	- cm3/1000 strokes : 2.5 Check tolerance	
TOLL PELLYLINI CITY	ANTO LENZO 1200	+ cm3/1000s. : 3.0	
Ref. pressure		+	
ALDA / ADA hPa		†	
Rated speed rpm Del. quantity	: 2000	HIGH IDLE	
cm3/1000 strokes	: 40.1	+	
Tolerance		+ Ref. pressure	
cm3/1000 strokes Check tolerance	: +- 0.8	+ ALDA / ADA hPa : 1100	
cm3/1000s.	: +- 1.8		
Spreed		+ STARTING FUEL DELIVERY	
Tolerance	. 25	t Sector and and 100	
cm3/1000 strokes Check tolerance	: 2.5	+ Rated speed rpm : 100 + rack travel mm : 21.60	
cm3/1000s.	: 3.0	+ Tolerance mm : + 1.50	
		Del. quantity	
Ref. pressure	. 4400	+ cm3/1000 strokes : 55.0	
ALDA / ADA hPa Rated speed rpm	: 1100 : 2500	+ Tolerance + cm3/1000 strokes : +- 4.0	
Spreed	, 6,00	+ Check tolerance	
Del. quantity	70.5	+ cm3/1000s. : +- 5.0	
cm3/1000 strokes Tolerance	: 39.5	+ Spreed + Tolerance	
cm3/1000 strokes	: + 1.0	+ cm3/1000 strokes : 6.0	
		+	

Check tolerance 6.0 cm3/1000S. LOW IDLE Rated speed rpm 300 7.30 rack travel mm Tolerance mm 0.15 Del. quantity cm3/1000 strokes : 9.5 Check tolerance cm3/1000s. 2.3 Spreed Check tolerance 1.5 cm3/1000s. SETTING PNEUMATIC FAST IDLE (ELA) control lever position degree : 10.5 tolerance degree : + 2.0 SETTING/TESTING ELECTRONIC IDLE REGULATION (ELR) control lever position degree 10.5 tolerance degree : +-2.0 Rated speed rpm 315 Rack travel in mm: 13.20 Tolerance mm : + - 0.70Del. quantity cm3/1000 strokes : 34.0 Tolerance 3.5 cm3/1000 strokes : +-Current A 1.80 : control lever 50.0 position degree 3000 Rated speed rpm 1.00 Rack travel in mm: 1.00 Tolerance mm Current short-3.00 duration A

Rated speed rpm : 100

Current A : 1.80

**ADJUSTMENT** 

control lever

position degree : 50.0

Rated speed rpm : 1100 rack travel mm : 1.70 Tolerance mm : + 0.20

TESTING PNEUMATIC SHUTOFF DEVICE

Rated speed rpm : 300

End of test specification sheet

Starting test

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 10.01.96 Test oil : ISO 4113

Combination No. : 0 400 836 036

Injection pump

Pump designation : PES6A85D410/3RS2761

EP type number : 0 410 886 895

Governor

Governer design. : RQV300...1250AB1188

: -1L

Governer no. : 0 420 212 205

Cust. part No. :

Customer-spec. information

Customer : KHD : BF6L913

Power KW : 118.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly : 0 681 343 009

Opening pressure

bar : 173.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 2.55
Tolerance mm : + 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm: 10.50

Tolerance mm : +- 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm: 12.35

Tolerance mm :  $\div$  0.05

Del. quantity cm3/1000 strokes : 88.0

clipy loop actorea . Go.o

Tolerance

cm3/1000 strokes :  $\leftarrow$  0.5

Check tolerance

cm3/1000s. : +- 2.5

Spreed

Tolerance

cm3/1000 strokes : 3.0

Check tolerance	+	
cm3/1000s.	: 7.0	FULL LOAD DELIVERY AT FULL LOAD STOP
Rated speed rpm	: 300	Rated speed rpm : 1250
Rack travel in mm Tolerance mm	1	Aneroid pressure hPa : 700
Del. quantity cm3/1000 strokes	<del> </del>	Del. quantity cm3/1000 strokes : 88.0
Tolerance	+	Tolerance
cm3/1000 strokes Check tolerance	+	cm3/1000 strokes : + 0.5 Check tolerance
cm3/1000s. Spreed	: + 4.0	cm3/1000s. : ← 2.5 Spreed
Tolerance cm3/1000 strokes	: 4.5	Tolerance cm3/1000 strokes : 3.0
Check tolerance cm3/1000s.	: 7.0	Check tolerance cm3/1000s. : 7.0
	1	
(B) SETTING OF IN WITH GOVERNOR	JECTION PUMP	CONTROL LEVER
WITH GOVERNOR	Ţ	
GUIDE SLEEVE TRAV	EL ‡	control lever position degree : 125.0
Rated speed rpm	: 300	tolerance degree : +- 4.0
guide sleeve travel mm	: 1.35	RATED SPEED
Tolerance mm	: + 0.05	rack travel mm : 11.30 Rated speed rpm : 1295
Rated speed rpm guide sleeve	: 1300	Tolerance 1/min : + 5
travel mm	: 8.95	rack travel mm : 4.00
Tolerance mm	: + 0.05	Rated speed rpm : 1395 Tolerance 1/min : +- 15
Rated speed rpm guide sleeve	: 380	rack travel mm : 0.50
travel mm Tolerance mm	: 2.60 : + 0.10	Tolerance mm : +- 0.50 Rated speed rpm : 1500
	+	Nated Speed (pm : 1500
Rated speed rpm guide sleeve	+	
travel mm Tolerance mm	: 3.20 : + 0.10	LOW IDLE
Rated speed rpm	: 1390	control lever
guide sleeve travel mm	: 10.15	position degree : 72.0 tolerance degree : +- 4.0
Tolerance mm	: + 0.05	Testing:
CHINE OF ENE POST	FTON	
GUIDE SLEEVE POSIT	+	rack travel mm : 7.80
Rated speed rpm	+	
Rack travel in mm Tolerance mm		Rated speed rpm : 100
	‡	CRT mm min. :> 9.30
	•	

Rated speed rpm	: 405	+ Aneroid pressure
TORQUE CONTROL		+ hPa : 700 + Rated speed rpm : 750 + Del. quantity
Dimension a mm Rated speed rpm	: 1250	cm3/1000 strokes : 89.5 Tolerance
rack travel mm Tolerance mm		+ cm3/1000 strokes : +- 1.5 + Check tolerance + cm3/1000s. : +- 3.5
Rated speed rpm rack travel mm	: 13.15	Aneroid pressure
Tolerance mm Rated speed rpm	: +- 0.05 : 750	+ hPa : - Rated speed rpm : 500 Del. quantity
rack travel mm Tolerance mm	: 12.90	cm3/1000 strokes : 63.0 Tolerance
Rated speed rpm	: 820 : 12.90	- cm3/1000 strokes : +- 0.5 - Check tolerance - cm3/1000s. : +- 2.5
rack travel mm Tolerance mm	: +- 0.10	
ANEROID/ALTITUDE COMPENSATOR TEST		BREAKAWAY
SETTING		Rack travel in mm : 11.30 Rated speed rpm : 1295 Tolerance 1/min : +- 5
Rated speed rpm Pressure hPa		
rack travel mm Tolerance mm	: 12.90	STARTING FUEL DELIVERY
MEASUREMENT		+ Rated speed rpm : 100 + rack travel mm : 17.20 + Tolerance mm : + 0.20
Pressure hPa Rated speed rpm rack travel mm		Del. quantity cm3/1000 strokes : 125.0 Tolerance
Tolerance mm	: + 0.10	cm3/1000 strokes : +- 7.5 + Check tolerance
Rated speed rpm Pressure hPa	: 500 : 350	+ cm3/1000s. : +- 10.0
rack travel mm Tolerance mm	: 11.70 : + 0.05	
OTANT ALT ALT		LOW IDLE
START CUT-OUT Rated speed rpm	; > 100	Rated speed rpm : 300 rack travel mm : 7.80 Tolerance mm : +- 0.10
Rated speed rpm		Del. quantity cm3/1000 strokes : 13.0
Check speed 1/min Check	: > 80	Tolerance cm3/1000 strokes : +- 2.0 Check tolerance
speed 1/min	: < 240	cm3/1000s. : +- 4.0 + Spreed
FUEL DELIVERY CHA	RACTERISTICS	Tolerance + cm3/1000 strokes : 4.5

cm3/1000s.	:	7.0	

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 03.01.96 Edition Test oil : ISO 4113

Combination No. : 0 401 876 735

Injection pump

Pump designation : PE6P120A320RS3088 EP type number : 0 411 826 720

Governor

Governer design. : RSV200...1000P4/421R

: 0 421 833 142 Governer no.

: 847612 P09 v. 9/95 Cust. part No.

Customer-spec. information Customer : PENTA : TD120HP

Motor

### TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C Tolerance °C 2.0

: 1 417 413 010 Overflow valve

Inlet press. bar : 1.5

Test nozzle holde

: 1 688 901 019 assembly

Opening pressure

bar 208.5 Tolerance bar 1.5

: 1 680 750 075 Test Lines

Outside diameter : 8.0

x inside diameter : 3.0 x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

# BEGINNING OF DELIVERY

Test pressure bar: Tolerance bar :  $\leftarrow$  1.0

Prestroke mm 2.45 Tolerance mm : + 0.05

Check

: + 0.10tolerance mm

Rack travel in mm: 10.50 : + 1.50 Tolerance mm

: 1-5-3-6-2-Firing order

Phasing : 0-60-120-180-240

: -300

: + 0.30Tolerance

Check

tolerance *NW : + 0.50

Start of delivery mark

Tolerance : + - 0.50

Check

: + 0.75tolerance °NW

: 1 Barrel no.

### BASIC SETTING

Rated speed rpm 700

11.90 Rack travel in mm : Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 180.0

Tolerance

cm3/1000 strokes : +- 1.0

Charle tolorano	1
Check tolerance cm3/1000s. : +- 4.0	control lever position degree : 58.0
Spreed	tolerance degree : + 4.0
Tolerance cm3/1000 strokes : 6.0	t control lever position degree : 108.0
Check tolerance : 9.0	tolerance degree : + 4.0  RATED SPEED
Rated speed rpm : 250	+
	rack travel mm : 10.90
Rack travel in mm: 4.10 Tolerance mm: + 0.20 Del. quantity	Rated speed rpm : 1025 Tolerance 1/min : + 5
cm3/1000 strokes : 18.0	rack travel mm : 4.00
Tolerance cm3/1000 strokes : +- 2.0	Rated speed rpm : 1075 Tolerance 1/min : + 15
Check tolerance cm3/1000s. : +- 5.0	rack travel mm : 1.00
Spreed	Tolerance mm : + 0.70
Tolerance	+ Rated speed rpm : 1210
cm3/1000 strokes : 5.0	+
Check tolerance	†
cm3/1000s. : 7.0	LOW IDLE
	I com ince
(B) SETTING OF INJECTION PUMP	1
WITH GOVERNOR	+ control lever
	position degree : 72.0
	tolerance degree : + 4.0
GUIDE SLEEVE POSITION	T control lever
OGAS IN CARACTER 1 COAT SOFT	+ position degree : 22.0
Rated speed rpm : 800	tolerance degree : +- 4.0
Rack travel in mm : 0.50	+ Setting point w/out bumper spring
Tolerance mm : +- 0.20	t
	+ Rated speed rpm : 250
FULL LOAD DELIVERY AT FULL LOAD STOP	rack travel mm : 3.60
FOLL LUAD DELIVERY AT FOLL LUAD STOP	Testing:
Rated speed rpm : 700	1
Aneroid pressure	+ Rated speed rpm : 250
hPa : -	+ rack travel mm : 4.10
Del. quantity	+ Tolerance mm : +- 0.10
cm3/1000 strokes : 180.0	t made drawal are a 2.00
Tolerance cm3/1000 strokes : + 1.0	+ rack travel mm : 2.00 + Rated speed rpm : 310
Check tolerance	Tolerance 1/min : + 30
cm3/1000s. : +- 4.0	+ Total directivities
Spreed	+
Tolerance	+ TORQUE CONTROL
cm3/1000 strokes : 6.0	† Datasia and and 300
Check tolerance	+ Rated speed rpm : 700 + rack travel mm : 11.90
cm3/1000s. : 9.0	+ rack travel mm : 11.90 + Tolerance mm : + 0.05
	Forerance min . The U.U.

CONTROL LEVER

## **BREAKAWAY**

Rack travel in mm: 10.90
Rated speed rpm: 1025
Tolerance 1/min: +- 5

# STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : + 0.50
Del. quantity
cm3/1000 strokes : 415.0
Tolerance
cm3/1000 strokes : + 25.0
Check tolerance
cm3/1000s. : + 29.0

## LOW IDLE

Rated speed rpm 250 4.10 rack travel mm 0.20 Tolerance mm Del. quantity cm3/1000 strokes 18.0 Tolerance cm3/1000 strokes 2.0 Check tolerance cm3/1000s. 5.0 Spreed Tolerance cm3/1000 strokes 5.0 Check tolerance cm3/1000s. 7.0

### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 22,12,95 Test oil : ISO 4113

Combination No. : 0 402 046 871

Injection pump

Pump designation : PES6P12DA72ORS3356 EP type number : 0 412 026 783

Governor

Governer design. : RQV450...1050PA1245

: 0 421 814 161 Governer no.

Cust. part No.

Customer-spec. information

: IVECO-FRANCE Customer Motor : 8465,41,006

#### TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet

temp. °C Tolerance °C

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5 Tolerance bar

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

208.5 bar Tolerance bar : +- 1.5

: 1 680 750 089 Test lines

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : ሰበስ

#### REMARKS

(A) INJECTION PUMP SETTING VALUES Set equal delivery quant.

per values _____

## BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

3.55 Prestroke mm : +- 0.05Tolerance mm Check tolerance mm : + 0.10

Rack travel in mm: 10.50

Firing order : 1-5-3-6-2-

: 4

: 0-60-120-180-240 Phasing

: -300 : + 0.30Tolerance

Check

tolerance °NW : + 0.50

## BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 9.35 Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 158.0

Tolerance

cm3/1000 strokes : + 1.0

Check tolerance cm3/1000s.

: +- 4.0

Spreed Tolerance

5.0 cm3/1000 strokes :

Check tolerance		•	•	
cm3/1000s.	: 9.0	Ī		
		+	FULL LOAD DELIVER	RY AT FULL LOAD STOP
Rated speed rpm	: 450	+	De tradition of the	4050
Rack travel in mm	5 00	†	Rated speed rpm Aneroid pressure	: 1050
Tolerance mm	: + 0.20	I	hPa	: -
Del. quantity		+	Del. quantity	
cm3/1000 strokes	: 24.0	+	cm3/1000 strokes	: 158.0
Tolerance cm3/1000 strokes	: +~ 3.0	†	Tolerance cm3/1000 strokes	: + 1.0
Check tolerance	. +- 3.0	I	Check tolerance	: +- 1.0
cm3/1000s.	: <del>←</del> 6.0	+	cm3/1000s.	: +- 4.0
Spreed		+	Spreed	
Tolerance cm3/1000 strokes	: 8.0	†	Tolerance cm3/1000 strokes	: 5.0
Check tolerance	: 0.0	Ī	Check tolerance	: 5.0
cm3/1000s.	: 12.0	Ţ	cm3/1000s.	: 9.0
		+		
(B) SETTING OF IN	HECTTON DUMP	†		
WITH GOVERNOR	MECITON PUMP	Ī	CONTROL LEVER	
Watti AATRIMIAN		+	Committee to be \$ fall	
		<del></del> +	control lever	
GUIDE SLEEVE TRAV	EL	†	position degree	
Rated speed rpm	: 450	Ī	tolerance degree	: +- 4.0
guide sleeve		Ŧ	RATED SPEED	
travel mm	: 2.70	+		
Tolerance mm	: <del>+-</del> 0.20	+	rack travel mm	: 8.30
Rated speed rpm	: 1110	İ	Rated speed rpm Tolerance 1/min	
guide sleeve	. 1110	I	roterance initia	• +- 3
travel mm	: 7.40	+	rack travel mm	: 4.00
Tolerance mm	: +- 0.15	+	Rated speed rpm	
Dated speed spe	: 836	†	Tolerance 1/min	: <del>←</del> 15
Rated speed rpm guide sleeve	: 836	I	rack travel mm	: 0.50
travel mm	: 5.75	1	Tolerance mm	: + 0.50
Tolerance mm	: +- 0.25	· +	Rated speed rpm	: 1400
Dated Shand upp	: 580	+		
Rated speed rpm guide sleeve	: 580	I		
travel mm	: 3.80	1	LOW IDLE	
Tolerance mm	: <b>←</b> 0.25	+		
Dated speed ses	: 1550	†	control lever	
Rated speed rpm guide sleeve	: 1550	I	position degree	: 71.0
travel mm	: 11.50	1	tolerance degree	
Tolerance mm	: <b>←</b> 0.50	+		
		†	Testing:	
GUIDE SLEEVE POSI	TTON	<b>-</b> I	Rated speed rpm	: 450
THE CHARTE ! COL	. = 311	+	rack travel mm	: 5.00
Rated speed rpm	: 1405	+	Tolerance mm	: + 0.10
Dook trough to	. 970	†	Dated speed par	: 350
Rack travel in mm Tolerance mm		I	Rated speed rpm	. 550
10 to alloc limit		Ť	CRT mm min.	: > 6.50
		+		

Rated speed rpm : 515

TORQUE CONTROL

Rated speed rpm : 1050 rack travel mm : 9.35 Tolerance mm : +- 0.05

Rated speed rpm : 800 rack travel mm : 9.85 Tolerance mm : + 0.10

Rated speed rpm : 950 rack travel mm : 9.55 Tolerance mm :  $\div$  0.10

Rated speed rpm : 600 rack travel mm : 9.90 Tolerance mm : + 0.15

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa : -Rated speed rpm : 800

Del. quantity

cm3/1000 strokes : 170.0

Tolerance

cm3/1000 strokes : +- 2.0

Check tolerance

cm3/1000s. : +- 5.0

**BREAKAWAY** 

Rack travel in mm: 8.30
Rated speed rpm: 1135
Tolerance 1/min: + 5

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 19.50 Tolerance mm : + 1.50

Del. quantity

cm3/1000 strokes : 130.0

Tolerance

cm3/1000 strokes : +- 15.0

Check tolerance

cm3/1000s. : +- 19.0

LOW IDLE

Rated speed rpm 450 rack travel mm : > 5.00 : +- 0.20 Tolerance mm Del. quantity cm3/1000 strokes : 24.0 Tolerance cm3/1000 strokes : + 3.0Check tolerance cm3/1000s. : +-6.0 Spreed Tolerance cm3/1000 strokes : 8.0

Check tolerance cm3/1000s.

End of test specification sheet

12.0

### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil : 09.01.96 : ISO 4113

Combination No. : 0 402 076 759

Injection pump

Pump designation : PES6P120A720RS3322

EP type number : 0 412 026 764

Governor

Governer design. : RSV650...1250P8A567

Governer no. : 0 421 833 416

Cust. part No.

Customer-spec. information

Customer

: FNH-GEOTECH

Power KW

: 201.0

## TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet

temp. °C Tolerance *C 2.0

Overflow valve : 2 417 413 086

Inlet press. bar : 1.5

Test nozzle holde

: 1 688 901 103 assembly

Opening pressure

208.5 bar : + 1.5 Tolerance par

Test Lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

# BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : + 1.0

Prestroke mm 3.60 Tolerance mm : + 0.05

Check

: + 0.10tolerance mm

Rack travel in mm: 10.50 Tolerance mm : +- 1.50

: 1-5-3-6-2-Firing order

: 0-60-120-180-240 Phasing

: -300

: + 0.30Tolerance

Check

tolerance *NW : + 0.50

Start of delivery blocking

Check

: + 0.30tolerance °NW

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm: 11.65 Tolerance mm : +- 0.10

Del. quantity

cm3/1000 strokes :

157.5

Tolerance cm3/1000 strokes : + 1.0	Tolerance - cm3/1000 strokes : 5.0 - Check tolerance
Check tolerance cm3/1000s. : + 4.0	- cm3/1000s. : 9.0
Spreed Tolerance cm3/1000 strokes : 5.0	CONTROL LEVER
Check tolerance cm3/1000s. : 9.0	position degree : 109.0 tolerance degree : + 4.0
Rated speed rpm : 650	- RATED SPEED
Rack travel in mm: 4.80 Tolerance mm: + 0.20	- Rated speed rpm : 1330
Del. quantity cm3/1000 strokes : 21.0	- ASSEMBLY GOVERNOR SETTING
Tolerance cm3/1000 strokes : + 3.0	- Rated speed rpm : 1293 - rack travel mm : 10.65
Check tolerance cm3/1000s. : +- 6.0 Spreed	Rated speed rpm : 1325 Tolerance 1/min : + 5
Tolerance cm3/1000 strokes : 8.0	rack travel mm : 4.00
Check tolerance cm3/1000s. : 12.0	- rack travel mm : 0.85 - Tolerance mm : +- 0.55 - Rated speed rpm : 1500
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	Rated speed rpm : 1294 rack travel mm : 10.65
	Rated speed rpm : 1326 Tolerance 1/min : + 5
GUIDE SLEEVE POSITION	rack travel mm : 4.00
Rated speed rpm : 800	rack travel mm : 0.85 Tolerance mm : +- 0.55
Rack travel in mm: 0.50 + O.20 + O.20	Rated speed rpm : 1295 rack travel mm : 10.65
governor spring pre-tension click setting x : 3.00	Rated speed rpm : 1327 Tolerance 1/min : +- 5 rack travel mm : 4.00
FULL LOAD DELIVERY AT FULL LOAD STOP	rack travel mm : 0.85 Tolerance mm : + 0.55
Rated speed rpm : 1250 + Aneroid pressure + 1000 + 1000	Rated speed rpm : 1296 rack travel mm : 10.65
Del. quantity + cm3/1000 strokes : 157.5 +	Rated speed rpm : 1328 Tolerance 1/min : +- 5
Tolerance cm3/1000 strokes : + 1.0	rack travel nm : 4.00
Check tolerance cm3/1000s. : +- 4.0 +- Spreed	rack travel mm : 0.85 Tolerance mm : + 0.55

Rated speed rpm : 1297 + rack travel mm : 10.65 +	
Rated speed rpm : 1329	ANEROID/ALTITUDE COMPENSATOR TEST
Tolerance 1/min : + 5 + rack travel mm : 4.00 +	
rack travel mm : 0.85 + Tolerance mm : + 0.55	SETTING Rated speed rpm : 500
Rated speed rpm : 1298	Pressure hPa : 1000 rack travel mm : 12.10
rack travel mm : 10.65  Rated speed rpm : 1330	Tolerance mm : + 0.10 MEASUREMENT
Tolerance 1/min : +- 5 rack travel mm : 4.00	Pressure hPa : -
rack travel mm : 0.85 Tolerance mm : + 0.55	Rated speed rpm : 500 rack travel mm : 7.90 Tolerance mm : + 0.10
LOW IDLE	Rated speed rpm : 500
EOM IDEE	Pressure hPa : 490 rack travel mm : 11.05
control lever position degree : 79.0 tolerance degree : + 4.0	Tolerance mm : + 0.05
Setting point w/out bumper spring	START CUT-OUT
Rated speed rpm : 650 + rack travel mm : 4.30 +	Rated speed rpm : > 100 Check
Testing:	speed 1/min : > 80
Rated speed rpm : 650 + rack travel mm : 4.80 +	FUEL DELIVERY CHARACTERISTICS
Tolerance mm : + 0.10	Aneroid pressure hPa : 1000
rack travel mm : 2.00 + Rated speed rpm : 770 + Tolerance 1/min : + 50 +	Rated speed rpm : 900 Del. quantity cm3/1000 strokes : 176.0
Toterance Transition . To 30	Tolerance cm3/1000 strokes : + 3.0
TORQUE CONTROL	Check tolerance cm3/1000s. : +- 6.0
Rated speed rpm : 1250 + rack travel mm : 11.65 + Tolerance mm : + 0.10	Aneroid pressure hPa : -
Rated speed rpm : 900 rack travel mm : 12.10	Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 84.5
Tolerance mm : + 0.10 + Rated speed rpm : 700 +	Tolerance cm3/1000 strokes : +- 1.0 Check tolerance
Rated speed rpm : 700 + rack travel mm : 12.15 + Tolerance mm : +- 0.15	cm3/1000s. : + 4.0

## STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : + 0.50
Del. quantity
cm3/1000 strokes : 210.0
Tolerance
cm3/1000 strokes : + 15.0
Check tolerance
cm3/1000s. : + 19.0

## LOW IDLE

650 Rated speed rpm 4.80 rack travel mm Tolerance mm 0.20 Del. quantity cm3/1000 strokes : 21.0 Tolerance cm3/1000 strokes : +-3.0 Check tolerance cm3/1000s. 6.0 Spreed Tolerance 8.0 cm3/1000 strokes Check tolerance cm3/1000s. 12.0

## Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 26,10,95 : ISO 4113

Combination No. : 0 402 610 802

Injection pump

Pump designation : PE12P12OA500/6LS7866

EP type number : 0 412 620 836

Governor

Governer design. : Governer no.

Cust. part No. : 0240742902

Customer-spec, information

Customer

: MTU

Motor

: 12V183-02

#### TEST BENCH REQUIREMENTS

Inlet line

: 3.1,3.2

Test oil inlet

temp. °C

Tolerance °C

2.0

Overflow valve

: 1 417 413 025

Inlet press. bar :

1.5

Overflow quantity

min. L/h

110

Tolerance 1/h

: +- 10.0

Test nozzle holde

assembly

: 1 688 901 105

Opening pressure

bar

208.5

Tolerance bar

Test lines

: 1 680 750 075

Outside diameter : 8.0

x inside diameter :

3.0

x length mm

: 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm 4.45

Tolerance mm : **←** 0.05

Check

: + 0.10tolerance mm

Rack travel in mm: 20.50

Tolerance mm : +- 0.50

: 12-1-5-9-8 Firing order

: - 3- 4- 11- 10

: - 2- 6- 7

: 0-45-60-105-120 Phasing

: -165-180-225-240

: -285-300-345

Tolerance : + - 0.30

Check

tolerance °NW : +- 0.50

Start of delivery mark

Barrel no.

12

BASIC SETTING

Rated speed rpm

Rack travel in mm : 10.45

Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes :

184.0

750

F08

Tolerance cm3/1000 strokes	: +- 1.0
Check tolerance cm3/1000s.	: + 4.0
Spreed Tolerance cm3/1000 strokes	: 8.0
Check tolerance cm3/1000s.	: 11.0
Rated speed rpm	: 300
Rack travel in mm Tolerance mm Del. quantity	: 6.00 : + 0.20
cm3/1000 strokes Tolerance	: 18.0
cm3/1000 strokes Check tolerance	: <del>-</del> 3.0
cm3/1000S. Spreed Tolerance	: + 6.1
	: 10.0
cm3/1000s.	: 14.0
(D) PETTING OF THE	ECTION DUMP

# (B) SETTING OF INJECTION PUMP WITH GOVERNOR

## FULL LOAD DELIVERY AT FULL LOAD STOP

, :	
. •	
:	184.0
:	+- 1.0
	+- 4.0
:	8.0
:	11.0

# TORQUE CONTROL

Rated speed rpm	:		750
rack travel mm	:		10.45
Tolerance mm	: -	_	0.05

LOW IDLE	
Rated speed rpm rack travel mm Tolerance mm	: 300 : 6.00 : + 0.20
Del. quantity cm3/1000 strokes Tolerance	: 18.0
cm3/1000 strokes Check tolerance	: ← 3.0
cm3/1000s. Spreed	: ← 6.1
Tolerance cm3/1000 strokes Check tolerance	: 10.0
cm3/1000s.	: 14.0

## Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 08.01.96 Test oil : ISO 4113

Combination No. : 0 402 640 812

Injection pump

Pump designation : PE12P12DA52DLS7820

EP type number : 0 412 620 814

Governor

Governer design. : RQV350...1150PA870

: -4

Governer no. : 0 421 813 717

Cust. part No. : 0170742602

Customer-spec. information Customer: MB-NFZ Motor: 0M 444 LA Power KW: 736.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40 Tolerance °C : + 2.0

Overflow valve : 2 417 413 077

Inlet press. bar : 1.5 Tolerance bar : + 0.1

Tolerance L/h: + 10.0

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : +- 1.5 Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter: 2.5 x length mm : 1000

## **REMARKS**

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

## BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.45
Tolerance mm : + 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 20.00 Tolerance mm : +- 1.00

Firing order : 12-1-5-9-8

: - 3- 4- 11- 10 : - 2- 6- 7

Phasing : 0-45-60-105-120

: -165-180-225-240

: -285-300-345 : +- 0.30

Check

Tolerance

tolerance *NW : +- 0.50

Start of delivery mark

Barrel no. : 12

## BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm : 15.30 Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 306.0

		+ Tolerance mm	; +- 0.25
Tolerance cm3/1000 strokes	: + 1.0	ļ	
Check tolerance		+ GUIDE SLEEVE POS	SITION
cm3/1000s.	: + 4.0	Rated speed rpm	: 1275
Spreed Tolerance cm3/1000 strokes	: 6.0	Rack travel in m	m: 16.50 : + 1.30
Check tolerance cm3/1000s.	: 10.0	FULL LOAD DELIVE	
Rated speed rpm	: 350	Rated speed rpm Aneroid pressure hPa	
Rack travel in mm	n: 5.60	Del. quantity	• 1300
Tolerance mm Del. quantity	: +- 0.30	cm3/1000 strokes	: : 306.0
cm3/1000 strokes Tolerance	: 15.0	cm3/1000 strokes Check tolerance	: + 1.0
cm3/1000 strokes Check tolerance	: +- 3.0	cm3/1000s.	: +- 4.0
cm3/1000s. Spreed	: + 6.0	Tolerance cm3/1000 strokes	: 6.0
Tolerance		+ Check tolerance	
cm3/1000 strokes	: 8.0	+ cm3/1000s.	: 10.0
Check tolerance cm3/1000s.	: 12.0	Ŧ	
(B) SETTING OF IN WITH GOVERNOR	JECTION PUMP	CONTROL LEVER	
		position degree tolerance degree	
GUIDE SLEEVE TRAV	EL	+ RATED SPEED	
Rated speed rpm guide sleeve	: 350	rack travel mm	: 14.30
travel mm	: 1.55	Rated speed rpm	
Tolerance mm	: +- 0.15	Tolerance 1/min	
Rated speed rpm guide sleeve	: 1206	rack travel mm Rated speed rpm	: 4.00 : 1285
travel mm Tolerance mm	: 8.15 : +- 0.20	Tolerance 1/min	
roter arree min	0.20	rack travel mm	: 0.50
Rated speed rpm guide sleeve	: 600	Tolerance mm Rated speed rpm	: +- 0.50
travel mm	: 3.55	+	
Tolerance mm	: + 0.25	+	
Rated speed rpm	: 960	LOW IDLE	
guide sleeve travel mm	: 5.55	Į	
Tolerance mm	: +- 0.25	control lever position degree	: 66.0
Rated speed rpm guide sleeve	: 1291	tolerance degree	
travel mm	: 10.05	+ Testing:	

LOAD STOP

		+ Check
Rated speed rpm	: 350	+ speed 1/min : < 330
rack travel mm		_ Speed William
Tolerance mm	: ← 0.10	
locel affice min	0.10	FUEL DELIVERY CHARACTERISTICS
Pated speed nom	: 250	T FOEL DELIVERY CHARACTERISTICS
Rated speed rpm	, 200	T Anomaid ananouna
CRT mm min.	: > 7.30	Aneroid pressure
crei mm min.	: > 7.50	+ hPa : 1300
Dahad assal ass	. /75	Rated speed rpm : 750
Rated speed rpm	: 475	+ Del. quantity
		+ cm3/1000 strokes : 315.0
		- Tolerance
TORQUE CONTROL		cm3/1000 strokes : + 5.0
		+ Check tolerance
Rated speed rpm		+ cm3/1000s. : + 8.0
rack travel mm		+ Spreed
Tolerance mm	: <del>+-</del> 0.05	+ Tolerance
		+ cm3/1000 strokes : 10.0
Rated speed rpm	: 750	+ Check tolerance
rack travel mm	: 15.40	+ cm3/1000s. : 15.0
Tolerance mm	: + 0.10	+
		+ Aneroid pressure
<u> </u>		
ANEROID/ALTITUDE		Rated speed rpm : 1150
COMPENSATOR TEST		- Del. quantity
		- cm3/1000 strokes : 234.5
		Tolerance
SETTING		+ cm3/1000 strokes : + 1.5
02111110		Check tolerance
Rated speed rpm	: 500	cm3/1000s. : + 4.5
Pressure hPa		Spreed
rack travel mm	: 15.30	Tolerance
Tolerance mm	: + 0.05	cm3/1000 strokes : 10.0
loterance imi	0.03	Check tolerance
NET A CUIDENETAIT		
MEASUREMENT		+ cm3/1000s. : 15.0
Danasius ED-		T Annuald masses
Pressure hPa	. 500	Aneroid pressure
Rated speed rpm		t hPa : -
rack travel mm		Rated speed rpm : 500
Tolerance mm	: + 0.15	+ Del. quantity
		+ cm3/1000 strokes : 124.0
Rated speed rpm	: 500	+ Tolerance
		+ cm3/1000 strokes : + 1.0
Pressure hPa	: 300	+ Check tolerance
rack travel mm	: 10.20	+ cm3/1000s. : +- 4.0
Tolerance mm	: +- 0.05	Spreed
		+ Tolerance
Pressure hPa	: 1100	+ cm3/1000 strokes : 10.0
rack travel mm	: 13.80	+ Check tolerance
Tolerance mm		+ cm3/1000s. : 15.0
		+
START CUT-OUT		BREAKAWAY
VINITE VOI VVI		I SINGINGER
Rated speed rpm	: > 200	1
Rated speed rpm		Rack travel in mm: 14.30
varen sheen thu	. > 310	+ Rated speed rpm : 1195
Chack		+ Tolerance 1/min : +- 5
Check	. \ 400	T Toterance (/min : T )
speed 1/min	: > 180	†

# STARTING FUEL DELIVERY

Rated speed rpm 100

Del. quantity cm3/1000 strokes :

331.0

Tolerance

cm3/1000 strokes : + 10.0

Check tolerance cm3/1000s. : +- 14.0

## LOW IDLE

Rated speed rpm rack travel mm Tolerance mm Del. quantity	: +-	350 5.60 0.30
cm3/1000 strokes	:	15.0
Tolerance		2 4
cm3/1000 strokes Check tolerance	: +-	3.0
cm3/1000s.	: +-	6.0
Spreed		
Tolerance cm3/1000 strokes		8.0
Check tolerance	•	0.0
cm3/1000s.	:	12.0

## Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 04.01.96 Test oil : ISO 4113

Combination No. : 0 402 746 604

Injection pump

Pump designation : PES6P12DA72DRS7366 EP type number : 0 412 726 933

Governor

Governer design. : RQV275...1100PA1208

: -1K

Governer no. : 0 421 815 492

Cust. part No. :

Customer-spec. information

Customer : IVECO-FRANCE Motor : 8460.41C-3000

## TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 2 417 413 076

Inlet press. bar : 2.5
Tolerance bar : + 0.1

Overflow quantity

min. L/h : 160 Tolerance L/h : + 10.0

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : + 1.5 Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: 3.0

x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

## BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 2.85
Tolerance mm : + 0.05

Check

tolerance mm :  $\leftarrow$  0.10

Rack travel in mm: 20.50

Tolerance mm : +- 0.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance :  $\leftarrow$  0.30

Check

tolerance "NW : + 0.50

Start of delivery mark

Check

tolerance *NW : +- 0.40

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 11.65
Tolerance mm : +- 0.05

Del. quantity cm3/1000 strokes :	235.0	guide sleeve travel mm Tolerance mm	: 13.50 : +- 0.50
Tolerance cm3/1000 strokes : +-	1.0	CUITAGE OF FELLE PROTE	FTAN
Check tolerance	†	GUIDE SLEEVE POSIT	
cm3/1000s. ; +-	4.0	Rated speed rpm	
Spreed Tolerance cm3/1000 strokes :	5.0	Rack travel in mm Tolerance mm	
Check tolerance cm3/1000s. :	9.0		Y AT FULL LOAD STOP
Rated speed rpm :	275	Rated speed rpm Aneroid pressure hPa	: 1100 : 1200
Rack travel in mm :	6.40	Del. quantity	: 1200
	0.20	cm3/1000 strokes	: 235.0
Del. quantity	+	Tolerance	
cm3/1000 strokes :	19.0	cm3/1000 strokes	: +- 1.0
Tolerance cm3/1000 strokes : +-	3.0	Check tolerance cm3/1000s.	: <del>+</del> 4.0
Check tolerance	3.0 I	Spreed	4.0
cm3/1000s. : +-	6.0	Tolerance	
Spreed	+	cm3/1000 strokes	: 5.0
Tolerance	+	Check tolerance	0.0
cm3/1000 strokes : Check tolerance	8.0	cm3/1000s.	: 9.0
cm3/1000s. :	12.0 T		
	1		
	+	CONTROL LEVER	
(B) SETTING OF INJECTION	N PUMP +		
WITH GOVERNOR	1	control lever position degree	: 118.0
		tolerance degree	
GUIDE SLEEVE TRAVEL	+		
	+	RATED SPEED	
	275	mode document on	. 10.40
guide sleeve travel mm :	1.70	rack travel mm Rated speed rpm	: 10.60 : 1145
	0.20	Tolerance 1/min	: +- 5
	+		-
• •	180	rack travel mm	: 4.00
guide sleeve	40.03	Rated speed rpm	: 1245
	10.07	Tolerance 1/min	: +- 15
Toterance has	Ţ.	rack travel mm	: 0.50
Rated speed rpm :	802	Tolerance mm	: +- 0.50
guide sleeve	+	Rated speed rpm	: 1350
travel mm :	6.49		
Tolerance mm : +-	0.25		
Rated speed rpm : guide sleeve	460	LOW IDLE	
	3.77		
	0.25	control lever	
	440	position degree tolerance degree	
The second secon	•		

_		•		
10	~+	•	22	٠
Te	<b>3</b> L	- 1	ı ıu	
		•		•

275 Rated speed rpm : 6.40 rack travel mm : + 0.10Tolerance mm

175 Rated speed rpm

CRT mm min. 7.90 : >

Rated speed rpm 315

#### TORQUE CONTROL

1100 Rated speed rpm rack travel mm 11.65 Tolerance mm : + 0.05008 Rated speed rpm

rack travel mm 11.40 : + 0.10Tolerance mm

550 Rated speed rpm rack travel mm 11.30 Tolerance mm : + 0.10

Rated speed rpm 500 11.30 rack travel mm : + 0.20Tolerance mm

## ANEROID/ALTITUDE COMPENSATOR TEST

## SETTING

Rated speed rpm 1100 Pressure hPa 1200 rack travel mm 11.65 : +- 0.05 Tolerance mm

#### **MEASUREMENT**

Pressure hPa 1100 Rated speed rpm rack travel mm 9.30 0.20 Tolerance mm

Rated speed rpm 1100

230 Pressure hPa 9.95 rack travel mm : + 0.20Tolerance mm

360 Pressure hPa 11.15 rack travel mm Tolerance mm : +- 0.05

## START CUT-OUT

Rated speed rpm 180 ; > Rated speed rpm 220 : <

Check

: > speed 1/min 160 Check speed 1/min 240 : <

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

1200 hPa Rated speed rpm 800

Del. quantity cm3/1000 strokes :

215.0 Tolerance cm3/1000 strokes : +-3.0

Check tolerance cm3/1000s. 6.0

Aneroid pressure

1200 Rated speed rpm 550 Del. quantity

cm3/1000 strokes : 202.0

Tolerance

cm3/1000 strokes : +-3.0 Check tolerance

cm3/1000s.

6.0

Aneroid pressure

hPa Rated speed rpm 550 Del. quantity

cm3/1000 strokes 138.5 Tolerance

cm3/1000 strokes 1.0

Check tolerance cm3/1000s.

4.0

## BREAKAWAY

Rack travel in mm : 10.60 Rated speed rom 1145 Tolerance 1/min

## STARTING FUEL DELIVERY

Rated speed rpm 100 : rack travel mm 11.90 : + - 0.50Tolerance mm

Del. quantity		
cm3/1000 strokes	:	115.0
Tolerance		
cm3/1000 strokes	: +-	- 15.0
Check tolerance		
cm3/1000s.	: +-	- 19.0

# LOW IDLE

Rated speed rpm rack travel mm Tolerance mm	: +-	275 6.40 0.20
Del. quantity cm3/1000 strokes Tolerance	:	19.0
cm3/1000 strokes Check tolerance	: +-	3.0
cm3/1000S. Spreed	: +-	6.0
Tolerance cm3/1000 strokes	:	8.0
Check tolerance cm3/1000s.	:	12.0

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 10.01.96 Test oil : ISO 4113

Combination No. : 0 403 466 176

Injection pump

Pump designation : PES6MW100/120RS1240

EP type number : 0 413 406 239

Governor

Governer design. : RSV400...1000MW2A396

Governer no. : 0 420 085 284

Cust. part No. : 3929174

Customer-spec. information

Customer : CDC

Motor : 6 CT-830 Power KW : 160.0

rower kw : 100.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

## BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0

Prestroke mm : 3.35 Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm: 10.50
Tolerance mm: + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance :  $\leftarrow$  0.50

Check

tolerance "NW : + 0.75

Start of delivery blocking

*NW after s.o.d. : 8.00

Barrel no. : 1

#### BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 12.40 Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 146.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance cm3/1000s. : +- 4.0	Check tolerance cm3/1000s. : 7.5
Spreed Tolerance cm3/1000 strokes : 4.0	CONTROL LEVER  control lever
Check tolerance cm3/1000s. 7.5	position degree : 92.0 tolerance degree : + 4.0
Rated speed rpm : 400	RATED SPEED
Rack travel in mm: 5.60 Tolerance mm: + 0.30 Del. quantity cm3/1000 strokes: 20.0	rack travel mm : 11.40 Rated speed rpm : 1045 Tolerance 1/min : + 5
Tolerance cm3/1000 strokes : +- 2.0 Check tolerance cm3/1000s. : +- 4.5	rack travel mm : 4.00 Rated speed rpm : 1125 Tolerance 1/min : + 15
Spreed Tolerance cm3/1000 strokes: 3.5 Check tolerance	rack travel mm : 0.85 Tolerance mm : + 0.55 Rated speed rpm : 1300
cm3/1000s. : 5.5	rack travel mm : 4.00 Rated speed rpm : 1135
(B) SETTING OF INJECTION PUMP	†
WITH GOVERNOR -	LOW IDLE
GUIDE SLEEVE POSITION -	control lever position degree : 76.0
GUIDE SLEEVE POSITION  Rated speed rpm : 800  Rack travel in mm : 0.65	control lever position degree : 76.0
GUIDE SLEEVE POSITION Rated speed rpm : 800	control lever position degree : 76.0 tolerance degree : + 4.0
GUIDE SLEEVE POSITION  Rated speed rpm : 800  Rack travel in mm : 0.65 Tolerance mm : + 0.35	control lever position degree : 76.0 tolerance degree : + 4.0  Setting point w/out bumper spring  Rated speed rpm : 400
GUIDE SLEEVE POSITION  Rated speed rpm : 800  Rack travel in mm : 0.65 Tolerance mm : + 0.35  governor spring pre-tension click setting x : 2.00  FULL LOAD DELIVERY AT FULL LOAD STOP	control lever position degree : 76.0 tolerance degree : + 4.0  Setting point w/out bumper spring  Rated speed rpm : 400 rack travel mm : 5.10
GUIDE SLEEVE POSITION  Rated speed rpm : 800  Rack travel in mm : 0.65 Tolerance mm : + 0.35  governor spring pre-tension click setting x : 2.00  FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 1000 Aneroid pressure hPa : 1200	control lever position degree : 76.0 tolerance degree : + 4.0  Setting point w/out bumper spring Rated speed rpm : 400 rack travel mm : 5.10  Testing:  Rated speed rpm : 400 rack travel mm : 5.60
GUIDE SLEEVE POSITION  Rated speed rpm : 800  Rack travel in mm : 0.65 Tolerance mm : + 0.35  governor spring pre-tension click setting x : 2.00  FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 1000 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 146.0 Tolerance cm3/1000 strokes : + 1.0	control lever position degree : 76.0 tolerance degree : + 4.0  Setting point w/out bumper spring  Rated speed rpm : 400 rack travel mm : 5.10  Testing:  Rated speed rpm : 400 rack travel mm : 5.60 Tolerance mm : + 0.30
GUIDE SLEEVE POSITION  Rated speed rpm : 800  Rack travel in mm : 0.65 Tolerance mm : + 0.35  governor spring pre-tension click setting x : 2.00  FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 1000 Aneroid pressure hPa : 1200 Del. quantity cm3/1000 strokes : 146.0 Tolerance	control lever position degree : 76.0 tolerance degree : + 4.0  Setting point w/out bumper spring  Rated speed rpm : 400 rack travel mm : 5.10  Testing:  Rated speed rpm : 400 rack travel mm : 5.60 Tolerance mm : + 0.30  TORQUE CONTROL  Rated speed rpm : 1000 rack travel mm : 12.40

## ANEROID/ALTITUDE COMPENSATOR TEST

## SETTING

Rated speed rpm 500 Pressure hPa 1200 rack travel mm 12.40 : + 0.10 Tolerance mm

## **MEASUREMENT**

Pressure hPa 500 Rated speed rpm rack travel mm 10.80 0.05 Tolerance mm

500 Rated speed rpm

750 Pressure hPa 11.80 rack travel mm : + 0.15Tolerance mm

Pressure hPa 600 11.10 rack travel mm : + 0.10Tolerance mm

## FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa 1200 Rated speed rpm 750 Del. quantity cm3/1000 strokes 149.0 Tolerance cm3/1000 strokes 2.0 Check tolerance cm3/1000s. 5.0 Spreed Tolerance cm3/1000 strokes : 6.0

Check tolerance cm3/1000s.

9.0

Aneroid pressure

hPa 500 Rated speed rpm

Del. quantity

cm3/1000 strokes : 118.0

Tolerance

cm3/1000 strokes 1.0

Check tolerance

cm3/1000s. : +-4.0

## BREAKAWAY

Rack travel in mm : 11,40 Rated speed rpm : 1045 Tolerance 1/min

## STARTING FUEL DELIVERY

Rated speed rpm 100 rack travel mm 20.00 : Tolerance mm : + 1.00Del. quantity cm3/1000 strokes : 145.0 Tolerance cm3/1000 strokes : + 10.0 Check tolerance cm3/1000s. : + 13.0

## LOW IDLE

Rated speed rpm 400 5.60 rack travel mm 0.30 Tolerance mm Del. quantity cm3/1000 strokes : 20.0 Tolerance cm3/1000 strokes : +-2.0 Check tolerance cm3/1000s. 4.5 Spreed Tolerance cm3/1000 strokes : 3.5 Check tolerance cm3/1000s. 5.5

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 09.01.96 Edition Test oil : ISO 4113

Combination No. : 0 403 474 025

Injection pump

Pump designation : PES4MW100/720RS1235

EP type number : 0 413 404 121

Governor

Governer design. : RSV350...1200MW0A346

: -3

: 0 420 085 179 Governer no.

Cust. part No. : 0260740602

Customer-spec. information Customer : MB-NFZ : OM 364 A Motor Power KW : 77.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C Tolerance °C 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

bar 208.5 Tolerance bar : ← 1.5

Test Lines : 1 680 750 089

Outside diameter : 8.0 x inside diameter: 3.0 x length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

## BEGINNING OF DELIVERY

Test pressure bar: 31.0 Tolerance bar : +- 1.0

Prestroke mm 3.75 : +- 0.05 Tolerance mm

Check

tolerance mm : +- 0.10

Rack travel in mm: 10.50 Tolerance mm : +- 1.50

Firing order : 1-3-4-2

Phasing : 0-90-180-270

Tolerance : +- 0.50

Check

tolerance °NW : +- 0.75

## BASIC SETTING

Rated speed rpm : 1200

Rack travel in mm : 13.20

Tolerance mm :  $\leftarrow$  0.05

Del. quantity cm3/1000 strokes : 0.88

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s. 3.0 : +-

Spreed Tolerance

cm3/1000 strokes : 3.5

Check tolerance	† tolerance degree : + 4.0
cm3/1000s. : 6.0	RATED SPEED
Rated speed rpm : 350	†
Rack travel in mm: 7.00	+ rack travel mm : 1.00 + Tolerance mm : + 0.70
Tolerance mm : +- 0.40	+ Tolerance mm : + 0.70 + Rated speed rpm : 1450
Del. quantity	+ Rated Speed (piii : 1430
cm3/1000 strokes : 12.0	+ rack travel mm : 4.00
Tolerance	Rated speed rpm : 1335
cm3/1000 strokes : + 2.0	+
Check tolerance cm3/1000s. : +- 4.5	rack travel mm : 12.20 Rated speed rpm : 1245
	+ Rated speed rpm : 1245
Spreed Tolerance	Tolerance 1/min : + 8
cm3/1000 strokes : 3.5	ASSEMBLY GOVERNOR SETTING
Check tolerance	T ADDERDET GOVERNOR SETTING
cm3/1000s. : 5.5	Rated speed rpm : 1240
	+ rack travel mm : 12.20
	+
(B) SETTING OF INJECTION PUMP	+ Rated speed rpm : 1289
WITH GOVERNOR	+ Tolerance 1/min : + 4
	† rack travel mm : 4.00
	T Pated speed nom : 12/1
GUIDE SLEEVE POSITION	Rated speed rpm : 1241 rack travel mm : 12.20
30196 06666 1 001:1011	TOOK CI GVCE IIIII
Rated speed rpm : 800	+ Rated speed rpm : 1290
, and the second	+ Tolerance 1/min : +- 4
Rack travel in mm: 0.65	+ rack travel mm : 4.00
Tolerance mm : + 0.35	+
- · · · · · · · · · · · · · · · · · · ·	Rated speed rpm : 1242 rack travel mm : 12.20
governor spring	rack travel mm : 12.20
<pre>pre-tension click setting x : 5.80</pre>	Rated speed rpm : 1291
celex secengy . 5.00	Tolerance 1/min : +- 4
	+ rack travel mm : 4.00
FULL LOAD DELIVERY AT FULL LOAD STOP	+
	+ Rated speed rpm : 1243
Rated speed rpm : 1200	rack travel mm : 12.20
Aneroid pressure hPa : 700	t nated aread non a 1202
hPa : 700 Del. quantity	+ Rated speed rpm : 1292 + Tolerance 1/min : + 4
cm3/1000 strokes : 88.0	rack travel mm : 4.00
Tolerance	+
cm3/1000 strokes : +- 1.0	Rated speed rpm : 1244
Check tolerance	+ rack travel mm : 12.20
$cm3/1000s.$ : $\leftarrow$ 3.0	†
Spreed	Rated speed rpm : 1293
Tolerance cm3/1000 strokes : 3.5	+ Tolerance 1/min : + 4 + rack travel mm : 4.00
cm3/1000 strokes : 3.5 Check tolerance	T rack travet limit . 4.00
cm3/1000s. : 6.0	+ Rated speed rpm : 1245
	+ rack travel mm : 12.20
	+
	+ Rated speed rpm : 1294
CONTROL LEVER	+ Tolerance 1/min : + 4
control lever	rack travel mm : 4.00
position degree : 102.0	I
posteron degree . Total	1

LOW IDLE	
Testing:	
Rated speed rpm rack travel mm Tolerance mm	: 350 : 7.00 : + 0.40
Rated speed rpm	: 100
CRT mm min.	: > 19.00
TORQUE CONTROL	
Rated speed rpm rack travel mm Tolerance mm	: 1200 : 13.20 : + 0.05
Rated speed rpm rack travel mm Tolerance mm	: 600 : 14.00 : ← 0.10
Rated speed rpm rack travel mm Tolerance mm	: 1000 : 13.60 : + 0.10
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : 700 : 14.00 : +- 0.10
MEASUREMENT	
Pressure hPa Rated speed rpm Tolerance mm	: - : 500 : + 0.10
Rated speed rpm	: 500
Pressure hPa rack travel mm Tolerance mm	: 375 : 1.45 : + 0.15
Pressure hPa rack travel mm Tolerance mm	: 200 : 0.50 : + 0.05

FUEL DELIVERY CHA	ARACTERISTICS
Aneroid pressure	: 700
Rated speed rpm Del. quantity	: 600
cm3/1000 strokes Tolerance	: 87.0
cm3/1000 strokes Check tolerance	: +- 1.5
cm3/1000s. Spreed Tolerance	: +- 4.0
cm3/1000 strokes Check tolerance	: 5.0
cm3/1000s.	: 7.0
Aneroid pressure	_
hPa Rated speed rpm	500
Del. quantity cm3/1000 strokes	: 50.0
Tolerance cm3/1000 strokes	: + 1.0
Check tolerance cm3/1000s.	: + 3.0
STARTING FUEL DEL	IVERY
Rated speed rpm	IVERY : 100
Rated speed rpm Del. quantity cm3/1000 strokes	
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	: 100
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance	: 100 : 80.0
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	: 100 : 80.0 : + 5.0
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	: 100 : 80.0 : + 5.0
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	: 100 : 80.0 : + 5.0
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.  LOW IDLE Rated speed rpm	: 100 : 80.0 : + 5.0 : + 8.0
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.  LOW IDLE Rated speed rpm rack travel mm Tolerance mm	: 100 : 80.0 : + 5.0 : + 8.0
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.  LOW IDLE Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes	: 100 : 80.0 : + 5.0 : + 8.0 : 350 : 7.00
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.  LOW IDLE Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	: 100 : 80.0 : + 5.0 : + 8.0 : 350 : 7.00 : + 0.40
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.  LOW IDLE Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: 100 : 80.0 : + 5.0 : + 8.0 : 350 : 7.00 : + 0.40 : 12.0
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.  LOW IDLE Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	: 100 : 80.0 : + 5.0 : + 8.0 : 4.00 : 7.00 : + 0.40 : 12.0 : + 2.0

cm3/1000s.	:	5.5	

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition

: 12.01.96

Test oil

: ISO 4113

Combination No. : 0 401 876 808

Injection pump

Pump designation : PE6P12OA32ORS3355

EP type number : 0 411 826 814

Governor

Governer design. : RSV300...1100P1A604

Governer no. : 0 421 833 485

Cust. part No. : 3825516 PO3 v. 11/95

Customer-spec. information

Customer : PENTA

: TD1030ME Motor

Power KW : 190.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C

Tolerance °C 2.0

Overflow valve : 2 417 413 077

Inlet press. bar : 2.5 Tolerance bar : + 0.1

Overflow quantity

min. l/h : 85
Tolerance l/h : +- 10.0

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

: 208.5 bar

Tolerance bar : +- 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 3.45
Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 9.90

Tolerance mm :  $\leftarrow$  0.50

: 1-5-3-6-2-Firing order

Phasing : 0-60-120-180-240

: -300 : + 0.30Tolerance

Check

tolerance "NW : +- 0.50

Start of delivery mark

Tolerance : + 0.50

Check

tolerance "NW : +- 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm: 12.50

Tolerance mm :  $\leftarrow$  0.05

1	Check tolerance
Del. quantity cm3/1000 strokes : 156.0	cm3/1000s. : +- 4.0 Spreed Tolerance
Tolerance cm3/1800 strokes : + 1.0	cm3/1000 strokes : 7.0 Check tolerance
Check tolerance cm3/1000s. : + 4.0	cm3/1000s. : 11.0
Spreed	CONTROL LEVER
Tolerance cm3/1000 strokes : 7.0	control lever position degree : 62.0
Check tolerance cm3/1000s. : 11.0	tolerance degree : +- 4.0
Rated speed rpm : 300	control lever position degree : 112.0 tolerance degree : +- 4.0
Rack travel in mm: 4.70	toter differ degree 2 4 4.0
Tolerance mm : + 0.20 + Del. quantity	RATED SPEED
cm3/1000 strokes : 23.0 +	rack travel mm : 11.50
Tolerance +	Rated speed rpm : 1135
cm3/1000 strokes : + 2.5 Check tolerance	Tolerance 1/min : + 5
cm3/1000s. : +- 5.0	rack travel mm : 4.00
Spreed	Rated speed rpm : 1190
Tolerance	Tolerance 1/min : + 15
cm3/1000 strokes : 3.0	0.05
Check tolerance + cm3/1000s. : 6.0	rack travel mm : 0.85 Tolerance mm : + 0.55
cm3/1000S. : 6.0 +	Rated speed rpm : 1300
1	nacea apeca i piii . 1000
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	rack travel mm : 4.00 Rated speed rpm : 1195
GUIDE SLEEVE POSITION	LOW IDLE
Rated speed rpm : 800	
Tated speed (piii . ood	control lever
Rack travel in mm: 0.85	position degree : 76.0
Tolerance mm : + 0.55	tolerance degree : +- 4.0
governor spring	control lever
pre-tension +	position degree : 26.0
click setting x : 4.75	tolerance degree : + 4.0
+	
FULL JOAN OF THEN AT FULL LOAD STOD	Setting point w/out bumper spring
FULL LOAD DELIVERY AT FULL LOAD STOP	Rated speed rpm : 300
Rated speed rpm : 1100	rack travel mm : 4.20
Aneroid pressure	
hPa : 1500	Testing:
Del. quantity	Datas around no
cm3/1000 strokes : 156.0 +	Rated speed rpm : 300 rack travel mm : 4.70
cm3/1000 strokes : +- 1.0 +	Tolerance mm : +- 0.10
T T T T T T T T T T T T T T T T T T T	

rack travel mm Rated speed rpm Tolerance 1/min	: 2.00 : 380 : +- 30
TORQUE CONTROL	
Rated speed rpm rack travel mm Tolerance mm	: 1100 : 12.50 : + 0.05
Rated speed rpm rack travel mm Tolerance mm	: 700 : 12.50 : + 0.10
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : 1500 : 12.50 : + 0.05
MEASUREMENT	
Pressure hPa Rated speed rpm rack travel mm Tolerance mm	: - : 500 : 9.55 : ← 0.10
Rated speed rpm	: 500
Pressure hPa rack travel mm Tolerance mm	: 555 : 2.30 : + 0.15
Pressure hPa rack travel mm Tolerance mm	: 140 : 0.25 : +- 0.05
FUEL DELIVERY CHA	RACTERISTICS
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance	: 1500 : 700 : 178.0
cm3/1000 strokes Check tolerance cm3/1000s.	: +- 3.0 : +- 6.0
Spreed	. — 0.0

Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	:	7.0 11.0
Aneroid pressure hPa Rated speed rpm Del. quantity	:	_ 500
cm3/1000 strokes	:	127.0
Tolerance cm3/1000 strokes	: +-	1.0
Check tolerance cm3/1000s.	: +-	4.0

# BREAKAWAY

Rack travel in mm	:	11.50
Rated speed rpm	:	1135
Tolerance 1/min	:	+- 5

# LOW IDLE

Rated speed rpm	:		300
rack travel mm	:		4.70
Tolerance mm	•	+-	0.20
Del. quantity			
cm3/1000 strokes	•		23.0
Tolerance			
cm3/1000 strokes	:	+-	2.5
Check tolerance			
cm3/1000s.	:	+-	5.0
Spreed			
Tolerance			
cm3/1000 strokes			3.0
Check tolerance			
cm3/1000s.	:		6.0

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 10.01.96 Edition Test oil : ISO 4113

Combination No. : 0 401 876 813

Injection pump

Pump designation : PE6P110A320RS3364 EP type number : 0 411 816 798

Governor

Governer design. : RSV300...900P1A624 Governer no. : 0 421 833 535

: 11030179 Cust. part No.

: -P02 v.12/95

Customer-spec. information : VME Customer

: TD 63 KEE Motor Power KW : 105.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.1

Vibration damper

(RoBo diaphragm) : 4.2

Test oil inlet

temp. °C Tolerance °C 2.0

: 2 417 413 046 Overflow valve

Inlet press. bar : 1.5 Tolerance bar 0.1

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

208.5 Tolerance bar : +- 1.5 Test Lines : 1 680 750 008

Outside diameter :

6.0

x inside diameter :

2.0

x length mm :

600

## REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

## BEGINNING OF DELIVERY

26.0 Test pressure bar : Tolerance bar : +- 1.0

Prestroke mm 2.45 Tolerance mm : + - 0.05

Check

tolerance mm : + 0.10

Rack travel in mm: 10.50 Tolerance mm : +- 1.50

: 1-5-3-6-2-Firing order

: 4

: 0-60-120-180-240 Phasing

: -300

: + 0.30Tolerance

Check

: + - 0.75tolerance *NW

Start of delivery mark

Barrel no. 1

BASIC SETTING

Rated speed rpm 550

Rack travel in mm: 11.60 Tolerance mm : ← 0.05

Del. quantity

cm3/1000 strokes : 145.0

<b>~</b> .1		+ Tolerance
Tolerance cm3/1000 strokes	: +- 1.0	cm3/1000 stroke Check tolerance cm3/1000s.
Check tolerance cm3/1000s.	: + 3.0	+
Spreed Tolerance		CONTROL LEVER
cm3/1000 strokes Check tolerance	: 4.0	control lever
cm3/1000s.	: 7.5	tolerance degree
Rated speed rpm		position degree
Rack travel in mm Tolerance mm	: 4.80 : +- 0.20	RATED SPEED
Del. quantity cm3/1000 strokes Tolerance	: 26.0	rack travel mm Rated speed rpm
cm3/1000 strokes Check tolerance	: +- 2.0	Tolerance 1/mir
cm3/1000s. Spreed Tolerance	: +- 4.5	rack travel mm Rated speed rpm Tolerance 1/min
cm3/1000 strokes Check tolerance	: 3.0	rack travel mm
cm3/1000s.	: 6.0	Tolerance mm Rated speed rpm
(B) SETTING OF INJ	ECTION PUMP	‡
MILL GOACKIACK		LOW IDLE
GUIDE SLEEVE POSIT	ION	t control lever
Rated speed rpm	: 800	position degree tolerance degree
Rated speed rpm Rack travel in mm Tolerance mm	: 800	position degree tolerance degree control lever position degree
Rated speed rpm Rack travel in mm Tolerance mm governor spring pre-tension	: 800 : 0.50 : +- 0.20	position degree tolerance degree control lever position degree tolerance degree
Rated speed rpm Rack travel in mm Tolerance mm governor spring pre-tension click setting x	: 800 : 0.50 : +- 0.20 : 5.25	position degree tolerance degree control lever position degree tolerance degree Setting point we have a speed rom
Rated speed rpm Rack travel in mm Tolerance mm governor spring pre-tension click setting x  FULL LOAD DELIVERY	: 800 : 0.50 : + 0.20 : 5.25 AT FULL LOAD STOP	position degree tolerance degree control lever position degree tolerance degree Setting point was Rated speed rpm
Rated speed rpm Rack travel in mm Tolerance mm governor spring pre-tension click setting x  FULL LOAD DELIVERY Rated speed rpm Aneroid pressure hPa	: 800 : 0.50 : +- 0.20 : 5.25	position degree tolerance degree control lever position degree tolerance degree tolerance degree Setting point was Rated speed rpm rack travel mm  Rated speed rpm rack travel mm
Rated speed rpm Rack travel in mm Tolerance mm governor spring pre-tension click setting x  FULL LOAD DELIVERY Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes	: 800 : 0.50 : + 0.20 : 5.25 AT FULL LOAD STOP : 550 : 1500	position degree tolerance degree control lever position degree tolerance degree tolerance degree Setting point was Rated speed rpm rack travel mm Testing:  Rated speed rpm rack travel mm Tolerance mm
Rated speed rpm Rack travel in mm Tolerance mm governor spring pre-tension click setting x  FULL LOAD DELIVERY Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	: 800 : 0.50 : + 0.20 : 5.25 AT FULL LOAD STOP : 550 : 1500 : 145.0 : + 1.0	position degree tolerance degree control lever position degree tolerance degree tolerance degree Setting point was Rated speed rpm rack travel mm  Rated speed rpm rack travel mm
Rated speed rpm Rack travel in mm Tolerance mm governor spring pre-tension click setting x  FULL LOAD DELIVERY Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	: 800 : 0.50 : +- 0.20 : 5.25 AT FULL LOAD STOP : 550 : 1500 : 145.0	position degree tolerance degree control lever position degree tolerance degree tolerance degree tolerance degree tolerance degree tolerance degree tolerance degree tolerance degree tolerance degree tolerance travel mm rack travel mm rack travel mm rack travel mm Rated speed rpm

cm3/1000 strokes Check tolerance cm3/1000s.	: 4.0 : 7.5
CONTROL LEVER	
control lever position degree tolerance degree	: 51.0 : + 4.0
control lever position degree tolerance degree	: 101.0 : + 4.0
RATED SPEED	
rack travel mm Rated speed rpm Molerance 1/min	: 10.20 : 930 : + 5
rack travel mm Rated speed rpm Folerance 1/min	: 4.00 : 990 : + 15
rack travel mm Folerance mm Rated speed rpm	
.OW IDLE	
control lever position degree colerance degree	
control lever position degree	: +- 4.0
control lever position degree colerance degree control lever position degree colerance degree	: + 4.0 : + 4.0 : + 4.0
control lever position degree colerance degree control lever position degree colerance degree detting point w/or cated speed rpm	: + 4.0 : 26.0 : + 4.0 ut bumper spring
control lever cosition degree colerance degree control lever	: + 4.0 : 26.0 : + 4.0 ut bumper spring : 300
control lever cosition degree colerance degree control lever cosition degree colerance degree detting point w/or cated speed rpm cack travel mm	: + 4.0 : 26.0 : + 4.0 ut bumper spring : 300
control lever cosition degree colerance degree control lever cosition degree colerance degree cetting point w/or cated speed rpm cack travel mm cesting:	: + 4.0 : 26.0 : + 4.0 ut bumper spring : 300 : 4.30 : 300 : 4.80

	† Tolerance
TORQUE CONTROL	+ cm3/1000 strokes : 6.0 Check tolerance
Rated speed rpm : 550	+ cm3/1000s. : 10.0
rack travel mm : 11.60 Tolerance mm : +- 0.05	+ Aneroid pressure + hPa : -
Rated speed rpm : 900	Rated speed rpm : 550  Del. quantity
rack travel mm : 11.20 Tolerance mm : + 0.10	cm3/1000 strokes : 87.0 Tolerance
Rated speed rpm : 765	cm3/1000 strokes : + 1.0 Check tolerance
rack travel mm : 11.50 Tolerance mm : + 0.10	cm3/1000s. : +- 4.0
ANEROID/ALTITUDE	BREAKAWAY
COMPENSATOR TEST	Rack travel in mm: 10.20
SETTING	Rated speed rpm : 930 Tolerance 1/min : + 5
Rated speed rpm : 550	
Pressure hPa : 1500 rack travel mm : 11.60	STARTING FUEL DELIVERY
Tolerance mm : + 0.05	Rated speed rpm : 100
MEASUREMENT	Del. quantity cm3/1000 strokes : 103.0
Pressure hPa : - Rated speed rpm : 550	Tolerance cm3/1000 strokes : + 10.0
rack travel mm : 9.00 Tolerance mm : + 0.10	Check tolerance cm3/1000s. : + 14.0
Rated speed rpm : 550	
Pressure hPa : 620	_
rack travel mm : 2.30 Tolerance mm : + 0.20	LOW IDLE
Pressure hPa : 90	Rated speed rpm : 300 rack travel mm : 4.80
rack travel mm : 0.25 Tolerance mm : +- 0.05	Tolerance mm : + 0.20 Del. quantity
rocerance limit	cm3/1000 strokes : 26.0
	+ cm3/1000 strokes : + 2.0 + Check tolerance
FUEL DELIVERY CHARACTERISTICS	- cm3/1000s. : +- 4.5 - Spreed
Aneroid pressure hPa : 1500	Tolerance : 3.0
Rated speed rpm : 900	Check tolerance cm3/1000s. : 6.0
Del. quantity cm3/1000 strokes : 133.0	T (1115/1000) 0.0
Tolerance cm3/1000 strokes : + 1.0	Ŧ
Check tolerance cm3/1000s. : +- 3.0	Ţ
Spreed	Ť

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 17.01.96 : ISO 4113

Combination No. : 0 402 046 300

Injection pump

Pump designation : PES6P120A320RS419 EP type number : 0 412 026 037

Governor

Governer design. : RQV275...1100PA495

: -5

Governer no.

: 0 421 813 446

Cust. part No. : CCEP 5023 E 06-09

Customer-spec. information

Customer

: RVI

: MIDR 062045 Motor

Power KW

: 191.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C

Tolerance °C

: 1 417 413 025 Overflow valve

1.5 Inlet press. bar :

Test nozzle holde

: 1 688 901 019 assembly

Opening pressure

208.5 bar : +- 1.5 Tolerance bar

: 1 680 750 075 Test lines

Outside diameter : 8.0 x inside diameter: 3.0

x Length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm 2.85 Tolerance mm : + - 0.05

Check

tolerance mm : + 0.10

Rack travel in mm: 10.50 Tolerance mm :  $\leftarrow$  1.50

: 1-5-3-6-2-Firing order

: 4

: 0-60-120-180-240 Phasing

: -300

: +- 0.30 Tolerance

Check

: +- 0.50 tolerance °NW

Start of delivery mark

°NW after s.o.d. : 10.50 : + - 0.50Tolerance

Check

tolerance 'NW : +- 0.75

: 1 Barrel no.

BASIC SETTING

Rated speed rpm 1100

Rack travel in mm : 9.05

Tolerance mm 0.05

Del. quantity

cm3/1000 strokes : 163.0

	+	Rated speed rpm : 1150	
Tolerance cm3/1000 strokes	: + 1.0	Rack travel in mm : 16.5 Tolerance mm : + 1.3	
Check tolerance cm3/1000s.	: + 4.0	FULL LOAD DELIVERY AT FULL	
Spreed Tolerance cm3/1000 strokes	: 5.0	Rated speed rpm : 1100 Aneroid pressure	EUND STOP
Check tolerance	9.0	hPa : 700 Del. quantity cm3/1000 strokes : 163.	n
	: 275	Tolerance cm3/1000 strokes : +- 1.	
Rack travel in mm		Check tolerance cm3/1000s. : +- 4.	0
Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	+	Spreed Tolerance cm3/1000 strokes : 5. Check tolerance cm3/1000s. : 9.	
Check tolerance cm3/1000s.	: + 6.0	Cm5/10005. : 9.	U
Spreed Tolerance cm3/1000 strokes	: 8.0	CONTROL LEVER	
Check tolerance	: 12.0	control lever position degree : 64. tolerance degree : + 4.	_
(B) SETTING OF INJUNITH GOVERNOR	ECTION PUMP	control lever position degree : 124. tolerance degree : + 4.	
GUIDE SLEEVE TRAVE	<u> </u>	RATED SPEED	
guide sleeve travel mm	: 250 : 1.10 : + 0.10	rack travel mm : -1.0 Rated speed rpm : 1175 Tolerance 1/min : +- rack travel mm : -5.0	5
Rated speed rpm guide sleeve travel mm	: 1100 : 8.10	rack travel mm : -5.0 Rated speed rpm : 1240 Tolerance 1/min : + 1	
	: + 0.10	rack travel mm : -8.5 Tolerance mm : +- 0.5	
Rated speed rpm : guide sleeve	450	Rated speed rpm : 1350	
travel mm : Tolerance mm :	: 3.60 : + 0.20	LOW IDLE	
guide sleeve	850		
travel mm : Tolerance mm :	6.20	control lever position degree : 68.1 tolerance degree : + 4.0	
GUIDE SLEEVE POSITI	ION +	control lever position degree : 9.0	0

tolerance degree : +- 4.0	+
Testing:	FUEL DELIVERY CHARACTERISTICS
Rated speed rpm : 275 rack travel mm : -4.10 Tolerance mm : + 0.10	Aneroid pressure hPa : 700 Rated speed rpm : 700
Rated speed rpm : 200	+ Del. quantity + cm3/1000 strokes : 153.0 + Tolerance
CRT mm max. : < -2.40	cm3/1000 strokes : + 3.0 Check tolerance
Rated speed rpm : 343	cm3/1000s. : ← 6.0
TORQUE CONTROL	Aneroid pressure hPa : - Rated speed rpm : 500
Rated speed rpm : 1100	Del. quantity cm3/1000 strokes : 103.0
Rated speed rpm : 700	Tolerance + cm3/1000 strokes : +- 1.0
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	BREAKAWAY
Rated speed rpm : 500 Pressure hPa : 700	Rack travel in mm: -1.00 Rated speed rpm: 1175 Tolerance 1/min: +- 5
MEASUREMENT	
Pressure hPa : - Rated speed rpm : 500 rack travel mm : -1.10 Tolerance mm : +- 0.20	STARTING FUEL DELIVERY  Rated speed rpm : 100
Rated speed rpm : 500	+ Del. quantity + cm3/1000 strokes : 150.0
Pressure hPa : 195 rack travel mm : -0.80	Tolerance cm3/1000 strokes : +- 10.0 Check tolerance
Tolerance mm : + 0.10	cm3/1000s. : + 14.0
Pressure hPa : 220 rack travel mm : -0.35 Tolerance mm : + 0.05	<del> </del>
	LOW IDLE
START CUT-OUT	+ Rated speed rpm : 275 + rack travel mm : -4.10
Rated speed rpm : > 100 Rated speed rpm : < 195	Tolerance mm : +- 0.20 + Del. quantity + cm3/1000 strokes : 24.0
Check speed 1/min : > 80	Tolerance cm3/1000 strokes : +- 3.0
Check speed 1/min : < 215	theck tolerance cm3/1000s. : +- 6.0 spreed

Tolerance : 8.0 Check tolerance cm3/1000s. : 12.0

## Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 15.01.96 Test oil : ISO 4113

Combination No. : 0 402 046 824

Injection pump

Pump designation : PES6P12DA32DRS3279

: -1

EP type number : 0 412 026 758

Governor

Governer design. : RQ275/1050PA999-5 Governer no. : 0 421 801 663

Cust. part No. : CCEP-5112B 66-175

Customer-spec. information

Customer : RVI

Motor : MIHR 062045 A/3

Power KW : 186.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40 Tolerance °C : +- 2.0

Overflow valve : 2 417 413 078

Inlet press. bar : 2.5
Tolerance bar : + 0.1

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

## BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 3.55
Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : + 0.30

Check

tolerance *NW : +- 0.50

Start of delivery mark

Barrel no. : 1

Beginning of delivery differende

and maximum rack

travel : 10.50 Tolerance mm : + 0.50

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 11.25
Tolerance mm : + 0.05

Del. quantity cm3/1000 strokes : 158.0	guide sleeve travel mm : 6.00 Tolerance mm : +- 0.10
Tolerance cm3/1000 strokes : + 1.0	Rated speed rpm : 1380 guide sleeve
Check tolerance cm3/1000s. : + 4.0	travel mm : 11.50 Tolerance mm : + 0.50
Spreed Tolerance cm3/1000 strokes : 5.0	GUIDE SLEEVE POSITION  Rated speed rpm : 750
Check tolerance cm3/1000s. 9.0	Rack travel in mm : 20.00 Tolerance mm : +- 0.80
Rated speed rpm : 275	
Rack travel in mm : -4.50 Tolerance mm : +- 0.20	FULL LOAD DELIVERY AT FULL LOAD STOP
Del. quantity cm3/1000 strokes : 21.0	Rated speed rpm : 700 Aneroid pressure
Tolerance + 2.0 +	hPa : 1000 Del. quantity
Check tolerance cm3/1000s. : +- 5.0	cm3/1000 strokes : 158.0 Tolerance
Spreed	cm3/1000 strokes : +- 1.0 Check tolerance
Tolerance cm3/1000 strokes : 8.0 + Check tolerance +	cm3/1000s. : + 4.0 Spreed
cm3/1000s. : 12.0	Tolerance cm3/1000 strokes : 5.0
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	Check tolerance cm3/1000s. : 9.0
GUIDE SLEEVE TRAVEL	CONTROL LEVER
Rated speed rpm : 300 guide sleeve travel mm : 2.35 Tolerance mm : + 0.10	control lever position degree : 274.0 tolerance degree : + 4.0  RATED SPEED
Rated speed rpm : 1126 guide sleeve	rack travel mm : -1.00
travel mm : 6.38 + O.10 +	Rated speed rpm : 1138 Tolerance 1/min : +- 8
Rated speed rpm : 1050 guide sleeve travel mm : 6.00	rack travel mm : -7.20 Rated speed rpm : 1245 Tolerance 1/min : +- 15
Tolerance mm : + 0.10	rack travel mm : -10.75
Rated speed rpm : 582 guide sleeve	Tolerance mm : +- 0.55 Rated speed rpm : 1350
travel mm : 5.14 Tolerance mm : + 0.10	
Rated speed rpm : 710	LOW IDLE

control lever position degree tolerance degree		Check speed 1/min :> 80 Check speed 1/min : < 215
Testing:		FUEL DELTHEDY CHADACTEDICTICS
Rated speed rpm rack travel mm Tolerance mm	: -4.50	FUEL DELIVERY CHARACTERISTICS  Aneroid pressure  hPa : 1000  Rated speed rpm : 1050
rack travel mm Rated speed rpm Tolerance 1/min	: 580	Del. quantity  cm3/1000 strokes : 154.0  Tolerance  cm3/1000 strokes : + 3.0
Rated speed rpm	: 200	Check tolerance cm3/1000s. : +- 6.0
CRT mm max.	: < -3.00	Aneroid pressure hPa : -
TORQUE CONTROL		Rated speed rpm : 500
Rated speed rpm	: 700	<pre>Del. quantity     cm3/1000 strokes : 114.0     Tolerance</pre>
Rated speed rpm Tolerance mm	: 1050 : +- 0.10	cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0
ANEROID/ALTITUDE COMPENSATOR TEST		BREAKAWAY
SETTING		+ Rack travel in mm : -1.00 + Rated speed rpm : 1138
Rated speed rpm Pressure hPa	: 500 : 1000	Tolerance 1/min : + 8
MEASUREMENT		+ STARTING FUEL DELIVERY
Pressure hPa Rated speed rpm rack travel mm Tolerance mm	: -1.20	Del. quantity cm3/1000 strokes : 155.0 Tolerance cm3/1000 strokes : + 10.0
Rated speed rpm	: 500	+ Check tolerance + cm3/1000s. : +- 14.0
Pressure hPa rack travel mm Tolerance mm	: 220 : -0.45 : +- 0.15	
Pressure hPa rack travel mm Tolerance mm		LOW IDLE  Rated speed rpm : 275  rack travel mm : -4.50  Tolerance mm : +- 0.20
START CUT-OUT Rated speed rpm Rated speed rpm		Del. quantity - cm3/1000 strokes : 21.0 - Tolerance - cm3/1000 strokes : +- 2.0

Check tolerance cm3/1000s. : +- 5.0

Spreed Tolerance cm3/1000 strokes : 8.0

Check tolerance cm3/1000s. 12.0

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 09.01.96 Test oil : ISO 4113

Combination No. : 0 402 076 771

Injection pump

Pump designation : PES6P120A720RS3340

EP type number : 0 412 026 773

Governor

Governer design. : RSV650...1100P8A566

: -1

Governer no. : 0 421 833 452

Cust. part No. :

Customer-spec. information

Customer : FNH-GEOTECH

Power KW : 201.0

## TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet

temp.  $^{\circ}$ C : 40 Tolerance  $^{\circ}$ C : + 2.0

Overflow valve : 2 417 413 086

Inlet press. bar : 1.5

Test nozzle holde

assembly : 1 688 901 103

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

## BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 3.60
Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300 Tolerance : + 0.30

Check

tolerance °NW : + 0.50

Start of delivery blocking

Check

tolerance °NW : + 0.30

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1075

Rack travel in mm : 12.35 Tolerance mm : + 0.05

Del. quantity cm3/1000 strokes : 183.0	Check tolerance cm3/1000s. : +- 6.0 Spreed
Tolerance cm3/1000 strokes : + 1.0	Tolerance cm3/1000 strokes : 5.0 Check tolerance
Check tolerance cm3/1000s. : +- 6.0	cm3/1000s. : 9.0
Spreed Tolerance cm3/1000 strokes : 5.0	CONTROL LEVER
Check tolerance cm3/1000s. : 9.0	control lever position degree : 97.0 tolerance degree : +- 4.0
Rated speed rpm : 650	RATED SPEED
Rack travel in mm: 4.60 Tolerance mm: + 0.20 Del. quantity	rack travel mm : 4.00 Rated speed rpm : 1165
cm3/1000 strokes : 23.0 +	ASSEMBLY GOVERNOR SETTING
cm3/1000 strokes : + 3.0 Check tolerance	Rated speed rpm : 1121 rack travel mm : 11.30
cm3/1000s. : + 6.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0 + 5.0	Rated speed rpm : 1152 Tolerance 1/min : + 5
cm3/1000 strokes : 8.0 + Check tolerance	rack travel mm : 4.00
cm3/1000s. : 12.0	rack travel mm : 0.85 Tolerance mm : +- 0.55
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	Rated speed rpm : 1350  Rated speed rpm : 1122 rack travel mm : 11.30
GUIDE SLEEVE POSITION	Rated speed rpm : 1153 Tolerance 1/min : +- 5
Rated speed rpm : 800	rack travel mm : 4.00
Rack travel in mm: 0.50 Tolerance mm: + 0.20	rack travel mm : 0.85 Tolerance mm : +- 0.55
governor spring + pre-tension +	Rated speed rpm : 1123 rack travel mm : 11.30
click setting x : 2.50	Rated speed rpm : 1154 Tolerance 1/min : + 5 rack travel mm : 4.00
FULL LOAD DELIVERY AT FULL LOAD STOP	rack travel mm : 0.85
Rated speed rpm : 1075 Aneroid pressure	Tolerance mm : + 0.55
hPa : 1600 + Del. quantity +	Rated speed rpm : 1124 rack travel mm : 11.30
cm3/1000 strokes : 183.0 + Tolerance cm3/1000 strokes : + 1.0 +	Rated speed rpm : 1155 Tolerance 1/min : +- 5 rack travel mm : 4.00

7. 05	†
rack travel mm : 0.85 Tolerance mm : +- 0.55	ANEROID/ALTITUDE COMPENSATOR TEST
Rated speed rpm : 1125 rack travel mm : 11.30	+ SETTING
Rated speed rpm : 1156 Tolerance 1/min : + 5 rack travel mm : 4.00	Rated speed rpm : 500 Pressure hPa : 1600 rack travel mm : 13.20
rack travel mm : 0.85 Tolerance mm : + 0.55	+ Tolerance mm : + 0.15
Rated speed rpm : 1126 rack travel mm : 11.30	+ MEASUREMENT + Pressure hPa : -
Rated speed rpm : 1157 Tolerance 1/min : + 5 rack travel mm : 4.00	Rated speed rpm : 500 rack travel mm : 7.60 Tolerance mm : + 0.15
rack travel mm : 0.85	Rated speed rpm : 500
Tolerance mm : + 0.55	Pressure hPa : 1060 rack travel mm : 11.80 Tolerance mm : + 0.10
FOM IDE	
control lever position degree : 78.0 tolerance degree : +- 4.0	START CUT-OUT  Rated speed rpm : > 100
Setting point w/out bumper spring	Check speed 1/min : > 80
Rated speed rpm : 650 rack travel mm : 4.10	FUEL DELIVERY CHARACTERISTICS
Testing:	Aneroid pressure hPa : 1600
Rated speed rpm : 650 rack travel mm : 4.60	Rated speed rpm : 800 Del. quantity
Tolerance mm : + 0.10	+ cm3/1000 strokes : 210.0 + Tolerance
rack travel mm : 2.00 Rated speed rpm : 750	+ cm3/1000 strokes : + 3.0 + Check tolerance + cm3/1000s. : + 6.0
TORQUE CONTROL	Aneroid pressure
Rated speed rpm : 1075 rack travel mm : 12.35	hPa : - 500 Rated speed rpm : 500 Del. quantity
Tolerance mm : +- 0.05	cm3/1000 strokes : 83.0 Tolerance
Rated speed rpm : 800 rack travel mm : 13.15 Tolerance mm : +- 0.10	+ cm3/1000 strokes : +- 1.0 + Check tolerance + cm3/1000s. : +- 4.0
Rated speed rpm : 700 rack travel mm : 13.20 Tolerance mm : + 0.15	† † †

# STARTING FUEL DELIVERY

Rated speed rpm rack travel mm	•	100 20.50
Tolerance mm	: +-	0.50
Del. quantity cm3/1000 strokes	;	150.0
Tolerance cm3/1000 strokes	: +-	15.0
Check tolerance	• +-	19 N

# LOW IDLE

Rated speed rpm	:	650
rack travel mm	:	4.60
Tolerance mm	: +-	0.20
Del. quantity		
cm3/1000 strokes	:	23.0
Tolerance		
cm3/1000 strokes	: +-	3.0
Check tolerance		
cm3/1000s.	: +-	6.0
Spreed		
Tolerance		
cm3/1000 strokes	:	8.0
Check tolerance		
cm3/1000s.	:	12.0

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 23.06.95 : ISO 4113 Test oil

Combination No. : 0 402 646 626

Injection pump

Pump designation : PE6P12DA32ORS7299 EP type number : 0 412 626 885

Governor

Governer design. : RQV275...1000PA1076K

: 0 421 815 357 Governer no.

Cust. part No. : 1280160

Customer-spec. information Customer : DAF : WS 268 M Motor Power KW : 268.0

#### TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C 40 Tolerance °C : +- 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5 Tolerance bar : + 0.1

Overflow quantity

min. L/h 160 Tolerance l/h: + 20.0

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

208.5 bar Tolerance bar : +- 1.5 Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

## BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm 4.85 : +- 0.05 Tolerance mm Check tolerance mm : + 0.10

Rack travel in mm: 10.50 Tolerance mm : +- 1.50

Firing order : 1-5-3-6-2-

: 4

: 0-60-120-180-240 Phasing

: -300 Tolerance : +- 0.30

Check

tolerance °NW : +- 0.75

Start of delivery mark

Barrel no.

BASIC SETTING

Rated speed rpm 980

Rack travel in mm: 13.55 : +- 0.05 Tolerance mm

Del. quantity

cm3/1000 strokes : 250.0

Tolerance +	
cm3/1000 strokes : + 1.0	Rated speed rpm ; 390 guide sleeve
Check tolerance cm3/1000S. : +- 4.0 +	travel mm : 3.79 Tolerance mm : + 0.25
Spreed	Rated speed rpm : 1310 guide sleeve
cm3/1000 strokes : 5.0	travel mm : 13.50 Tolerance mm : + 0.50
Check tolerance cm3/1000s. : 9.0	GUIDE SLEEVE POSITION
Rated speed rpm : 275	Rated speed rpm : 1130
Rack travel in mm: 5.60	Nated Speed (pii) . 1130
Tolerance mm : + 0.10 Del. quantity	Rack travel in mm : 12.60 Tolerance mm : +- 1.30
cm3/1000 strokes : 17.0 +	Toterance nan . +- 1.50
Tolerance + 3.0 + Check tolerance + + + + + + + + + + + + + + + + + + +	FULL LOAD DELIVERY AT FULL LOAD STOP
cm3/1000s. : + 6.0 +	Rated speed rpm : 980
Spreed Tolerance +	Aneroid pressure hPa : -
cm3/1000 strokes : 8.0 + Check tolerance +	Del. quantity cm3/1000 strokes : 250.0
cm3/1000s. : 12.0	Tolerance
‡	cm3/1000 strokes : + 1.0 Check tolerance
(B) SETTING OF INJECTION PUMP	cm3/1000s. : +- 4.0
· ·	
WITH GOVERNOR	Spreed Tolerance
WITH GOVERNOR	Spreed Tolerance cm3/1000 strokes : 5.0
· ·	Spreed Tolerance
WITH GOVERNOR	Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance
WITH GOVERNOR  GUIDE SLEEVE TRAVEL  Rated speed rpm : 275 guide sleeve travel mm : 2.14	Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0
WITH GOVERNOR  GUIDE SLEEVE TRAVEL  Rated speed rpm : 275 guide sleeve	Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance
WITH GOVERNOR  GUIDE SLEEVE TRAVEL  Rated speed rpm : 275 guide sleeve travel mm : 2.14 Tolerance mm : + 0.15  Rated speed rpm : 1045	Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000S. : 9.0  CONTROL LEVER control lever
WITH GOVERNOR  GUIDE SLEEVE TRAVEL  Rated speed rpm : 275 guide sleeve travel mm : 2.14 Tolerance mm : + 0.15  Rated speed rpm : 1045 guide sleeve	Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000S. : 9.0  CONTROL LEVER  control lever position degree : 120.0
WITH GOVERNOR  GUIDE SLEEVE TRAVEL  Rated speed rpm : 275 guide sleeve travel mm : 2.14 Tolerance mm : + 0.15  Rated speed rpm : 1045	Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0  CONTROL LEVER  control lever position degree : 120.0 tolerance degree : 4.0
WITH GOVERNOR  GUIDE SLEEVE TRAVEL  Rated speed rpm : 275 guide sleeve travel mm : 2.14 Tolerance mm : + 0.15  Rated speed rpm : 1045 guide sleeve travel mm : 9.82 Tolerance mm : + 0.20  Rated speed rpm : 689	Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000S. : 9.0  CONTROL LEVER  control lever position degree : 120.0 tolerance degree : + 4.0  RATED SPEED
WITH GOVERNOR  GUIDE SLEEVE TRAVEL  Rated speed rpm : 275 guide sleeve travel mm : 2.14 Tolerance mm : + 0.15  Rated speed rpm : 1045 guide sleeve travel mm : 9.82 Tolerance mm : + 0.20  Rated speed rpm : 689 guide sleeve	Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0  CONTROL LEVER  control lever position degree : 120.0 tolerance degree : + 4.0  RATED SPEED  rack travel mm : 12.55
WITH GOVERNOR  GUIDE SLEEVE TRAVEL  Rated speed rpm : 275 guide sleeve travel mm : 2.14 Tolerance mm : + 0.15  Rated speed rpm : 1045 guide sleeve travel mm : 9.82 Tolerance mm : + 0.20  Rated speed rpm : 689	Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000S. : 9.0  CONTROL LEVER  control lever position degree : 120.0 tolerance degree : + 4.0  RATED SPEED
WITH GOVERNOR  GUIDE SLEEVE TRAVEL  Rated speed rpm : 275 guide sleeve travel mm : 2.14 Tolerance mm : + 0.15  Rated speed rpm : 1045 guide sleeve travel mm : 9.82 Tolerance mm : + 0.20  Rated speed rpm : 689 guide sleeve travel mm : 6.43 Tolerance mm : + 0.25  Rated speed rpm : 6.43 Tolerance mm : + 0.25	Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000S. : 9.0  CONTROL LEVER  control lever position degree : 120.0 tolerance degree : + 4.0  RATED SPEED  rack travel mm : 12.55 Rated speed rpm : 1042 Tolerance 1/min : + 5  rack travel mm : 4.00
WITH GOVERNOR  GUIDE SLEEVE TRAVEL  Rated speed rpm : 275 guide sleeve travel mm : 2.14 Tolerance mm : + 0.15  Rated speed rpm : 1045 guide sleeve travel mm : 9.82 Tolerance mm : + 0.20  Rated speed rpm : 689 guide sleeve travel mm : 6.43 Tolerance mm : + 0.25  Rated speed rpm : 6.43 Tolerance mm : + 0.25	Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000S. : 9.0  CONTROL LEVER  control lever position degree : 120.0 tolerance degree : + 4.0  RATED SPEED  rack travel mm : 12.55 Rated speed rpm : 1042 Tolerance 1/min : + 5  rack travel mm : 4.00 Rated speed rpm : 1160
WITH GOVERNOR  GUIDE SLEEVE TRAVEL  Rated speed rpm : 275 guide sleeve travel mm : 2.14 Tolerance mm : + 0.15  Rated speed rpm : 1045 guide sleeve travel mm : 9.82 Tolerance mm : + 0.20  Rated speed rpm : 689 guide sleeve travel mm : 6.43 Tolerance mm : + 0.25  Rated speed rpm : 6.43 Tolerance mm : + 0.25	Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000S. : 9.0  CONTROL LEVER  control lever position degree : 120.0 tolerance degree : + 4.0  RATED SPEED  rack travel mm : 12.55 Rated speed rpm : 1042 Tolerance 1/min : + 5  rack travel mm : 4.00 Rated speed rpm : 1160 Tolerance 1/min : + 15
WITH GOVERNOR  GUIDE SLEEVE TRAVEL  Rated speed rpm : 275 guide sleeve travel mm : 2.14 Tolerance mm : + 0.15  Rated speed rpm : 1045 guide sleeve travel mm : 9.82 Tolerance mm : + 0.20  Rated speed rpm : 689 guide sleeve travel mm : 6.43 Tolerance mm : + 0.25  Rated speed rpm : 284 guide sleeve travel mm : 2.27 Tolerance mm : + 0.25	Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000S. : 9.0  CONTROL LEVER  control lever position degree : 120.0 tolerance degree : + 4.0  RATED SPEED  rack travel mm : 12.55 Rated speed rpm : 1042 Tolerance 1/min : + 5  rack travel mm : 4.00 Rated speed rpm : 1160 Tolerance 1/min : + 15  rack travel mm : 0.70
WITH GOVERNOR  GUIDE SLEEVE TRAVEL  Rated speed rpm : 275 guide sleeve travel mm : 2.14 Tolerance mm : + 0.15  Rated speed rpm : 1045 guide sleeve travel mm : 9.82 Tolerance mm : + 0.20  Rated speed rpm : 689 guide sleeve travel mm : 6.43 Tolerance mm : + 0.25  Rated speed rpm : 284 guide sleeve travel mm : 2.27 Tolerance mm : + 0.25  Rated speed rpm : 284 guide sleeve travel mm : 2.27 Tolerance mm : + 0.25	Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000S. : 9.0  CONTROL LEVER  control lever position degree : 120.0 tolerance degree : + 4.0  RATED SPEED  rack travel mm : 12.55 Rated speed rpm : 1042 Tolerance 1/min : + 5  rack travel mm : 4.00 Rated speed rpm : 1160 Tolerance 1/min : + 15
WITH GOVERNOR  GUIDE SLEEVE TRAVEL  Rated speed rpm : 275 guide sleeve travel mm : 2.14 Tolerance mm : + 0.15  Rated speed rpm : 1045 guide sleeve travel mm : 9.82 Tolerance mm : + 0.20  Rated speed rpm : 689 guide sleeve travel mm : 6.43 Tolerance mm : + 0.25  Rated speed rpm : 284 guide sleeve travel mm : 2.27 Tolerance mm : + 0.25  Rated speed rpm : 284 guide sleeve travel mm : 2.27 Tolerance mm : + 0.25	Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000S. : 9.0  CONTROL LEVER  control lever position degree : 120.0 tolerance degree : + 4.0  RATED SPEED  rack travel mm : 12.55 Rated speed rpm : 1042 Tolerance 1/min : + 5  rack travel mm : 4.00 Rated speed rpm : 1160 Tolerance 1/min : + 15  rack travel mm : 0.70 Tolerance mm : 0.70 Tolerance mm : 0.70

## LOW IDLE control lever 76.0 position degree : tolerance degree : + 4.0 Testing: 275 Rated speed rpm : rack travel mm 4.80 : + 0.10Tolerance mm rack travel mm 2.00 390 Rated speed rpm Tolerance 1/min 175 Rated speed rpm : > 7.50 CRT mm min. TORQUE CONTROL 980 Rated speed rpm rack travel mm 13.55 • : +- 0.05 Tolerance mm 750 Rated speed rpm 13.05 rack travel mm : + 0.10Tolerance mm 825 Rated speed rpm : 13.30 rack travel mm : + 0.20Tolerance mm 600 Rated speed rpm : 12.10 rack travel mm : : +- 0.20 Tolerance mm Rated speed rpm : 500 rack travel mm 11.70 : + 0.15Tolerance mm ANEROID/ALTITUDE COMPENSATOR TEST SETTING

980

1500 13.55

: + - 0.05

Pressure hPa Rated speed rpm rack travel mm Tolerance mm	: - : 980 : 8.60 : +- 0.10
Rated speed rpm	: 980
Pressure hPa rack travel mm Tolerance mm	: 720 : 12.25 : + 0.05
Pressure hPa rack travel mm Tolerance mm	: 360 : 9.80 : ← 0.10
FUEL DELIVERY CHA	
Aneroid pressure	
hPa	: -
Rated speed rpm	: 750
Del. quantity cm3/1000 strokes	: 263.0
Tolerance	. 203.0
cm3/1000 strokes	: + 2.0
Check tolerance cm3/1000s.	: +- 5.0
Spreed	
Tolerance	
cm3/1000 strokes Check tolerance	: 8.0
cm3/1000s.	: 12.0
Aneroid pressure	
hPa	•
Rated speed rpm	: 600
Del. quantity cm3/1000 strokes	: 154.0
Tolerance	. 4.5
cm3/1000 strokes Check tolerance	: +- 1.0
cm3/1000s.	: +- 4.0
RREAKAUAY	

#### BREAKAWAY

Rack travel in mm : 12.55
Rated speed rpm : 1042
Tolerance 1/min : + 5

LOW IDLE

Rated speed rpm Pressure hPa

Tolerance mm

**MEASUREMENT** 

rack travel mm :

Rated speed rpm	: 275
rack travel mm	: 5.60
Tolerance mm	: + 0.10
Del. quantity	
cm3/1000 strokes	: 17.0
Tolerance	
cm3/1000 strokes	: +- 3.0
Check tolerance	
cm3/1000s.	: +- 6.0
Spreed	
Tolerance	
cm3/1000 strokes	: 8.0
Check tolerance	
cm3/1000s.	: 12.0

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 12.01.96 Edition Test oil : ISO 4113

Combination No. : 0 402 646 665

Injection pump

Pump designation : PE6P130A720RS7354 EP type number : 0 412 636 835

Governor

Governer design. : RQV300...950PA1002

: -3K

: 0 421 815 491 Governer no.

Cust. part No.

Customer-spec. information

: IVECO-FRANCE Customer

: 8210.42K.3000 Motor

## TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet

temp. °C Tolerance *C 2.0

Overflow valve : 2 417 413 076

Inlet press. bar : Tolerance bar : +-0.1

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

208.5 bar Tolerance bar : +- 1.5

Test lines : 1 680 750 075

8.0

Outside diameter :

x inside diameter: 3.0 x length mm : 1000

#### **REMARKS**

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

# BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm 5.05 : + - 0.05Tolerance mm Check

tolerance mm : + - 0.10Rack travel in mm: 12.00

Tolerance mm: +-0.50

: 1-5-3-6-2-Firing order

Phasing : 0-60-120-180-240 : -300

Tolerance : +- 0.30

Check

: + 0.50 tolerance *NW

Start of delivery mark

Check

: + 0.40tolerance °NW

: Barrel no. 1

#### BASIC SETTING

950 Rated speed rpm

Rack travel in mm: 12.05 : +- 0.05 Tolerance mm

Del. quantity

cm3/1000 strokes : 244.0

Tolerance cm3/1000 strokes : +- 1.0

G20

Check tolerance cm3/1000s. : + 4.0	GUIDE SLEEVE POSITION
Spreed	Rated speed rpm : 1190
Tolerance cm3/1000 strokes : 5.0	Rack travel in mm : 11.00 Tolerance mm : + 2.70
Check tolerance cm3/1000s. 9.0	Toter differential
+	FULL LOAD DELIVERY AT FULL LOAD STOP
Rated speed rpm : 300	Rated speed rpm : 950
Rack travel in mm: 4.70	Aneroid pressure
Tolerance mm : + 0.20	hPa : 1000
Del. quantity cm3/1000 strokes : 22.0	Del. quantity cm3/1000 strokes : 244.0
Tolerance +	Tolerance
cm3/1000 strokes : + 3.0	cm3/1000 strokes : + 1.0
Check tolerance + 6.0 +	Check tolerance cm3/1000s. : +- 4.0
Spreed	Spreed
Tolerance + cm3/1000 strokes : 8.0 +	Tolerance cm3/1000 strokes : 5.0
Check tolerance	Check tolerance
cm3/1000s. : 12.0	cm3/1000s. : 9.0
(B) SETTING OF INJECTION PUMP WITH GOVERNOR  GUIDE SLEEVE TRAVEL  Rated speed rpm : 300 guide sleeve travel mm : 1.64 Tolerance mm : + 0.20  Rated speed rpm : 1025 guide sleeve travel mm : 9.00 Tolerance mm : + 0.15	control lever position degree : 114.0 tolerance degree : + 4.0  RATED SPEED  rack travel mm : 11.00 Rated speed rpm : 1015 Tolerance 1/min : + 5  rack travel mm : 4.00 Rated speed rpm : 1115 Tolerance 1/min : + 15
Rated speed rpm : 764	
guide sleeve + travel mm : 6.22 +	rack travel mm : 0.50 Tolerance mm : +- 0.50
Tolerance mm : + 0.25	Rated speed rpm : 1250
Rated speed rpm : 500 + guide sleeve +	
travel mm : 3.78	LOW IDLE
Tolerance mm : +- 0.25	
Rated speed rpm : 1330 quide sleeve	control lever position degree : 69.0
travel mm : 13.50 +	tolerance degree : +- 4.0
Tolerance mm : + 0.50	Testing:
1	

Rated speed rpm	• 300	1
raceu speeu rpili	÷ 300 ÷ 4.70	T Rated speed rpm : > 180
rack travel mm Tolerance mm	÷ ÷ 0.10	Rated speed rpm : < 220
Rated speed rpm	: 200	Check
CRT mm min.	: > 6.20	+ speed 1/min :> 160 + Check
Rated speed rpm	: 355	+ speed 1/min : < 240
natur specu i piii	. 633	FUEL DEL TUEDV CHADACTEDICTICS
TORQUE CONTROL		- FUEL DELIVERY CHARACTERISTICS
Datasi amasal num	. 050	Aneroid pressure
Rated speed rpm rack travel mm	: 95U : 45.0F	+ hPa : 1000 + Rated speed rpm : 550
rack travel mm Tolerance mm	: 12.05	Rated speed rpm : 550
loterance mm	: ← 0.05	+ Del. quantity + cm3/1000 strokes : 264.0
Datad agent are	. 700	
Rated speed rpm	. 44 95	+ Tolerance
rack travel mm Tolerance mm		+ cm3/1000 strokes : + 3.0
iolerance mm	: +- 0.10	+ Check tolerance + cm3/1000s. : +- 6.0
Pated speed rom	• 550	T (1115) 10000
Rated speed rpm rack travel mm Folerance mm	· 11 40	Aneroid pressure
CIA CIAVEL IIIII	· +- 0.10	+ hPa : -
OLEI GILLE IIIII		Rated speed rpm : 550
Rated speed rpm	: 300	Del. quantity
ack travel mm	: 10.90	cm3/1000 strokes : 174.0
ack travel mm olerance mm	: +- 0.30	Tolerance
Steraine min	0.30	cm3/1000 strokes : +- 1.0
		- Check tolerance
NEROID/ALTITUDE OMPENSATOR TEST		cm3/1000s. : +- 4.0
SETTING		BREAKAWAY
SETTING		I
Rated speed rom	: 950	Rack travel in mm: 11.00
ressure hPa	: 1000	Rated speed rpm : 1015
Rated speed rpm Pressure hPa rack travel mm	: 12.05	+ Tolerance 1/min : + 5
olerance mm	: + 0.05	+
EASUREMENT		‡ <u></u>
manus LP-		+ STARTING FUEL DELIVERY
ressure hPa	: - : 950	Rated speed rpm : 100
Rated speed rpm		+ Rated speed rpm : 100 + rack travel mm : 20.25
ack travel mm olerance mm	: 8.40 : +- 0.20	Tolerance mm : + 0.75
oterance mm	. <del></del> 0.20	
ated speed rpm	: 950	+ Del. quantity + cm3/1000 strokes : 160.0
		+ Tolerance
ressure hPa	: 290	+ cm3/1000 strokes : + 15.0
ack travel mm	: 9.35	+ Check tolerance
Tolerance mm	: + 0.20	$\frac{1}{1}$ cm3/1000s. : +- 19.0
Pressure hPa	: 500	Ţ
rack travel mm		+
olerance mm		
		+ LOW IDLE
TARE 617 617	·	Poted grand and 700
START CUT-OUT		+ Rated speed rpm : 300

rack travel mm Tolerance mm	: +-	4.70 0.20
Del. quantity cm3/1000 strokes	:	22.0
Tolerance cm3/1000 strokes Check tolerance	: +-	3.0
cm3/1000s. Spreed	: +-	6.0
Tolerance cm3/1000 strokes Check tolerance	:	8.0
cm3/1000s.	:	12.0

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 02.06.95 Edition : U2.U6.93 : ISO 4113 Test oil

Combination No. : 0 402 646 757

Injection pump

Pump designation : PE6P12DA32OLS7836

: -10

EP type number : 0 412 626 854

Governor

Governer design. : RQ300/1050PA1030-25

: 0 421 801 771 Governer no.

Cust. part No. : 0260743002

Customer-spec. information Customer : MB-NFZ : 0M401 LA Motor : 200.0 Power KW

# TEST BENCH REQUIREMENTS

Inlet line : 3.7

Test oil inlet

temp. °C : +- 2.0 Tolerance °C

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5 Tolerance bar : +-0.1

Tolerance l/h: +- 10.0

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

: 208.5 bar Tolerance bar : + 1.5 Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter:

x length mm : 1000

## REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

## BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 5.55 Tolerance mm : + 0.05 Check

tolerance mm :  $\leftarrow$  0.10

Rack travel in mm : 20.50 Tolerance mm : + 0.50

Firing order : 6-3-5-2-4-: 1-

Phasing : 0-60-120-180-240

: -300-360

Tolerance : +- 0.30

Check

tolerance *NW : +- 0.75

Start of delivery mark

Barrel no. : 6

#### BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm: 13.00 : +- 0.05 Tolerance mm

Del. quantity

cm3/1000 strokes : 190.0

Tolerance + cm3/1000 strokes : + 1.0 +	
+	CONTROL LEVER
Check tolerance cm3/1000s. : + 4.0	control lever position degree : 95.0 tolerance degree : + 4.0
Tolerance cm3/1000 strokes : 5.0	RATED SPEED
Check tolerance cm3/1000s. : 9.0	rack travel mm : 12.00 Rated speed rpm : 1098 Tolerance 1/min : + 8
Rated speed rpm : 300	
Rack travel in mm: 5.80 Tolerance mm: + 0.30 Del. quantity	rack travel mm : 4.00 Rated speed rpm : 1185 Tolerance 1/min : +- 15
cm3/1000 strokes : 19.0 +	rack travel mm : 0.75 Tolerance mm : + 0.75
cm3/1000 strokes : + 3.0 + Check tolerance	Rated speed rpm : 1300
cm3/1000s. : + 6.0 + Spreed	
Tolerance + cm3/1000 strokes : 6.0 +	LOW IDLE
Check tolerance cm3/1000s. : 10.0	control lever position degree : 72.0 tolerance degree : + 4.0
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	Testing:
	Rated speed rpm : 300 rack travel mm : 5.80
GUIDE SLEEVE POSITION	Tolerance mm : +- 0.10
Rated speed rpm : 600	rack travel mm : 2.00 Rated speed rpm : 415
Rack travel in mm : 20.00 Tolerance mm : + 0.80	Tolerance 1/min : + 20
Total arce min	Rated speed rpm : 200
FULL LOAD DELIVERY AT FULL LOAD STOP	CRT mm min. : > 7.60
Rated speed rpm : 1050	<del></del>
Aneroid pressure + + + + + + + + + + + + + + + + + + +	TORQUE CONTROL
Del. quantity	Rated speed rpm : 1050
cm3/1000 strokes : 190.0	rack travel mm : 13.00 Tolerance mm : +- ບິ.ບິ5
cm3/1000 strokes : + 1.0 +	
Check tolerance cm3/1000s. : +- 4.0 +- 5preed	Rated speed rpm : 550 rack travel mm : 13.00 Tolerance mm : +- 0.10
Tolerance +	TOLET GITCE HAIT . T- U. TU
cm3/1000 strokes : 5.0 + Check tolerance	

		+ Aneroid pressure
ANEROID/ALTITUDE		- + hPa : - + Rated speed rpm : 500
COMPENSATOR TEST		Del. quantity
		+ cm3/1000 strokes : 132.0
		+ Tolerance
SETTING		+ cm3/1000 strokes : + 1.0
<b>A</b>	488	+ Check tolerance
Rated speed rpm Pressure hPa	: 400 : 800	+ cm3/1000s. : + 4.0
ack travel mm	: 800 : 13.00	+ Spreed + Tolerance
olerance mm	: + 0.05	+ cm3/1000 strokes : 8.0
		+ Check tolerance
EASUREMENT		
ressure hPa	; -	+
ated speed rpm	: 400	+ BREAKAWAY
ack travel mm	: 10.90 : +- 0.15	†
olerance mm	; - 0.13	Rack travel in mm : 12.00
Rated speed rpm	: 400	Rated speed rpm : 1098
· · · · · · · · · · · · · · · · · · ·	. ,	+ Tolerance 1/min : + 8
Pressure hPa	: 200	+
rack travel mm	: 11.40	+
olerance mm	: ← 0.20	CTARTING FUEL DELTUEDY
ressure hPa	: 350	STARTING FUEL DELIVERY
ack travel mm	12.25	T Rated speed rpm : 100
olerance mm	: +- 0.20	+ Del. quantity
		+ cm3/1000 strokes : 210.0
		- † Tolerance
ART CUT-OUT		+ cm3/1000 strokes : + 15.0
	. 400	+ Check tolerance
ted speed rpm ted speed rpm		+ cm3/1000s. : + 19.0
id speed rpm	: \ 220	I
eck		<u> </u>
peed 1/min	: > 80	
heck		+ LOW IDLE
peed 1/min	: < 240	+
		Rated speed rpm : 300 rack travel mm : 5.80
UEL DELIVERY CHA	APACTERISTICS	- + rack travel mm : 5.80 + Tolerance mm : +- 0.30
ALE DELIVER! CUP	HIVE I CITO I TOO	+ Del. quantity
neroid pressure		+ cm3/1000 strokes : 19.0
Pa	: 800	+ Tolerance
ated speed rpm	: 550	+ cm3/1000 strokes : +- 3.0
el. quantity	400 6	+ Check tolerance
m3/1000 strokes	: 189.0	+ cm3/1000s. : +- 6.0
olerance	: +- 3.0	+ Spreed + Tolerance
m3/1000 strokes heck tolerance	, <del></del> 3,0	+ cm3/1000 strokes : 6.0
n3/1000s.	: + 6.0	Check tolerance
preed		m3/1000s. : 10.0
olerance		+
m3/1000 strokes	: 8.0	+
neck tolerance	40.5	
n3/1000s.	: 12.0	
		+ End of test specification sheet

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 17.01.96 Test oil : ISO 4113

Combination No. : 0 402 646 785

Injection pump

Pump designation : PE6P120A320LS7869 EP type number : 0 412 626 887

Governor

Governer design. : RQV300...1050PA1078K

Governer no. : 0 421 815 359

Cust. part No. : 9275445

Customer-spec. information Customer : LIEBHERR : D 9406 TI Motor Power KW : 300.0

#### TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40 Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5 Tolerance bar : + 0.1

Overflow quantity

min. L/h : 165 Tolerance L/h : + 20.0

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

: 208.5 bar Tolerance bar :  $\leftarrow$  1.5 Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0 x length mm : 1000

### REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

## BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 3.65
Tolerance mm : + 0.05 Check

tolerance mm : +- 0.10

Rack travel in mm: 10.50 Tolerance mm : +- 1.50

Firing order : 1-6-3-5-2-

: 4

: -300

Phasing : 0-60-120-180-240

Tolerance : +- 0.30

Check

tolerance °NW : +- 0.50

# BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm: 12.00 Tolerance mm :  $\leftarrow$  0.05

Del. quantity cm3/1000 strokes : 279.0

Tolerance

cm3/1000 strokes : + 1.0 Check tolerance

cm3/1000s. : +- 4.0

Spreed		Rated speed rpm : 1320
Tolerance	<del>}</del>	guide sleeve
cm3/1000 strokes :	5.0	travel mm : 13.50
		Tolerance mm : + 0.50
Check tolerance	9.0	
cm3/1000s. :	y.u I	GUIDE SLEEVE POSITION
Rated speed rpm :	300	GOIDE SELEVE POSITION
THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SE	+	Rated speed rpm : 1185
Rack travel in mm :	6.10	
Tolerance mm : +	- 0.10 +	Rack travel in mm : 10.80
Del. quantity	50 a	Tolerance mm : + 1.30
cm3/1000 strokes : Tolerance	50.0	
cm3/1000 strokes : +	- 3.0 I	FULL LOAD DELIVERY AT FULL LOAD STOP
Check tolerance	1	TO THE MOUNT OF TH
cm3/1000s. : +-	- 6.0 +	Rated speed rpm : 1050
Spreed	+	Aneroid pressure
Tolerance	†	hPa : 1550
cm3/1000 strokes : Check tolerance	6.0	Del. quantity cm3/1000 strokes : 279.0
cm3/1000s.	10.0 I	Tolerance
(1137 13333)	10.0	cm3/1000 strokes : +- 1.0
-	<del>\</del>	Check tolerance
(B) SETTING OF INJECT	ION PUMP	cm3/1000s. : +- 4.0
WITH GOVERNOR	†	Spreed
		Tolerance cm3/1000 strokes : 5.0
GUIDE SLEEVE TRAVEL	I	Check tolerance
GOIDE OFFERE INVACE	1	cm3/1000s. : 9.0
Rated speed rpm :	300	
guide sleeve	+	
travel mm :	1.69	CONTROL : FIFE
Tolerance mm : +-	- 0.25	CONTROL LEVER
Rated speed rpm :	1117	control lever
guide sleeve	1	position degree : 121.0
travel mm :	10.38	tolerance degree : +- 4.0
Tolerance mm : +-	- 0.25	
Dahad award was	7/4	RATED SPEED
Rated speed rpm : guide sleeve	746	rack travel mm : 11.00
travel mm :	6.20	Rated speed rpm : 1105
Tolerance mm : +-	- 0.25	Tolerance 1/min : +- 5
	+	
Rated speed rpm :	353 +	rack travel mm : 4.00
guide steeve	3./5	Rated speed rpm : 1185
travel mm : +-	2.45 - 0.25	Tolerance 1/min : + 15
rocerance nan	Ţ	rack travel mm : 0.50
Rated speed rpm :	403	Tolerance mm : + 0.50
guide sleeve	+	Rated speed rpm : 1300
travel mm :	3.18	
Tolerance mm : +-	0.25	
Rated speed rpm :	450	LOW IDLE
guide sleeve	Ţ	COM INCE
travel mm :	3.66	
Tolerance mm : +-	0.25	
	·	

		•	
control lever position degree tolerance degree		Pressure hPa rack travel mm Tolerance mm	: 10.70
Testing:		Pressure hPa	: 525 : 9.50
Rated speed rpm rack travel mm Tolerance mm	: 300 : 6.10 : ← 0.10	rack travel mm Tolerance mm	: 9.50 : +- 0.10
Rated speed rpm	: 200	FUEL DELIVERY CH	ADACTEDICTICS
CRT mm min.	: > 8.00	+	ARACIERISTICS
Rated speed rpm	: 400	Aneroid pressure hPa Rated speed rpm Del. quantity	: 1550 : 800
TORQUE CONTROL		cm3/1000 strokes Tolerance	: 295.0
Rated speed rpm rack travel mm Tolerance mm	: 1050 : 12.00	cm3/1000 strokes Check tolerance	
		+ cm3/1000s.	; +- 0.0
Rated speed rpm rack travel mm Tolerance mm	: 11.65	Aneroid pressure hPa Rated speed rpm	: 1550 : 500
Rated speed rpm rack travel mm Tolerance mm	: 9.75	+ Del. quantity + cm3/1000 strokes + Tolerance + cm3/1000 strokes	
		+ Check tolerance	
Rated speed rpm rack travel mm Tolerance mm	: 950 : 11.85 : + 0.10	cm3/1000s.  Aneroid pressure	: +- 6.0
Rated speed rpm rack travel mm	: 600 : 10.25	+ hPa + Rated speed rpm + Del. quantity	
Tolerance mm	: ← 0.10	cm3/1000 strokes Tolerance	: 250.0
ANEROID/ALTITUDE		cm3/1000 strokes Check tolerance	: <b>←</b> 1.0
COMPENSATOR TEST		cm3/1000s. Spreed Tolerance	: +- 4.0
SETTING		cm3/1000 strokes Check tolerance	: 8.0
Rated speed rpm Pressure hPa rack travel mm	: 1050 : 1550 : 12.00	cm3/1000s.	: 12.0
Tolerance mm	: + 0.05	BREAKAWAY	
MEASUREMENT		Rack travel in mm	: 11.00
Pressure hPa Rated speed rpm rack travel mm Tolerance mm	: - : 1050 : 9.35 : +- 0.10	Rated speed rpm Tolerance 1/min	
Rated speed rpm	: 1050	STARTING FUEL DEL	IVERY

H01

Rated speed rpm	:	100
rack travel mm	:	9.55
Tolerance mm	: +-	0.30
Del. quantity		
cm3/1000 strokes	:	170.0
Tolerance		
cm3/1000 strokes	: +-	10.0
Check tolerance		
cm3/1000s.	: +-	14.0

# LOW IDLE

Rated speed rpm	:		300
rack travel mm	:		6.10
Tolerance mm	:	+-	0.10
Del. quantity			
cm3/1000 strokes			50.0
Tolerance			
cm3/1000 strokes	:	+-	3.0
Check tolerance			
cm3/1000s.	:	+	6.0
Spreed			
Tolerance			
cm3/1000 strokes			6.0
Check tolerance			
cm3/1000s.	:		10.0

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 17.01.96 Test oil : ISO 4113

Combination No. : 0 402 646 969

Injection pump

Pump designation : PE6P120A320RS7248

: -10Z

EP type number : 0 412 626 901

Governor

Governer design. : RQV275...1150PA986

Governer no. : 0 421 813 920

Cust. part No. : 1248041/4

Customer-spec. information
Customer : DAF
Motor : RS 200 L
Power KW : 200.0

#### TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5 Tolerance bar : + 0.1

Overflow quantity

min. L/h : 130 Tolerance L/h : +- 10.0

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : + 1.5 Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

#### REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

## BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 5.25
Tolerance mm : + 0.05
Check

tolerance mm : +- 0.10

Rack travel in mm : 11.50
Tolerance mm : + 0.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : + 0.30

Check

tolerance "NW : + 0.50

Start of delivery mark

Barrel no. : 1

## BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 11.70 Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 167.0

Tolerance + 1.0 +	
<u> </u>	CONTROL LEVER
Check tolerance cm3/1000s. : + 4.0	control lever position degree : 120.0
Spreed Tolerance cm3/1000 strokes : 5.0	tolerance degree : +- 4.0  RATED SPEED
Check tolerance cm3/1000s. : 9.0	rack travel mm : 10.70 Rated speed rpm : 1182 Tolerance 1/min : +- 5
Rated speed rpm : 275	
Rack travel in mm: 5.40 Tolerance mm: + 0.10	rack travel mm : 4.00 Rated speed rpm : 1290 Tolerance 1/min : + 15
Del. quantity cm3/1000 strokes : 16.0 Tolerance	rack travel mm : 0.70 Tolerance mm : +- 0.70
cm3/1000 strokes : + 3.0 +	Rated speed rpm : 1450
Check tolerance cm3/1000S. : + 6.0	
Tolerance	LOW IDLE
cm3/1000 strokes : 8.0 + Check tolerance +	
cm3/1000s. : 12.0	<pre>control lever position degree : 83.0 tolerance degree : +- 4.0</pre>
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	Testing:
+	•
	rack travel mm : 4.70
GUIDE SLEEVE POSITION	Tolerance mm : + 0.10
Rated speed rpm : 1335	Rated speed rpm : 175
Rack travel in mm: 10.30 + Tolerance mm: + 1.30 +	CRT mm min. :> 7.50
	Rated speed rpm : 340
FULL LOAD DELIVERY AT FULL LOAD STOP	TORQUE CONTROL
Rated speed rpm : 1000	
Aneroid pressure + 1000 + 1	Rated speed rpm : 1000 rack travel mm : 11.70
Del. quantity cm3/1000 strokes : 167.0	Tolerance mm : + 0.05
Tolerance	Rated speed rpm : 1150
cm3/1000 strokes : +- 1.0 +	rack travel mm : 11.70 Tolerance mm : + 0.10
cm3/1600s. : +- 4.0 +-	AND AND AND THE PARTY OF THE PA
Tolerance + cm3/1000 strokes : 5.0 + check tolerance +	ANEROID/ALTITUDE COMPENSATOR TEST
cm3/1000s. : 9.0	SETTING

Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: : : +	600 1000 11.70 — 0.05
MEASUREMENT		
Pressure hPa Rated speed rpm rack travel mm	:	600 9.20

Rated speed rpm rack travel mm	:	600 9,20
Tolerance mm	: +	
Rated speed rpm	:	600

•		
Pressure hPa	:	340
mark travel mm	•	10 75

:		200 9.7
•	+	0.1
	:	•

FIIFI	DEL TUERY	CHARACTERISTICS

Aneroid pressure		
hPa	:	-
Rated speed rpm	•	600

111 4			•	
Rate	d speed	rpm	:	600
Del.	quantit	tv		

ver. quarterty		
cm3/1000 strokes	:	117.0

Tolerance		
cm3/1000 strokes	: +-	1.0
Check tolerance		

CHECK COLET ATTCC		
cm3/1000s.	: +-	4.0

## BREAKAWAY

Rack travel in mm	:	10.70	)
Rated speed rpm	:	1182	
Tolerance 1/min	:	+ 5	ì

# LOW IDLE

Rated speed rpm rack travel mm Tolerance mm	: +-	275 5.40 0.10
Del. quantity cm3/1000 strokes	:	16.0

Tolerance		
cm3/1000 strokes	: +	3.0

Check tolerance cm3/1000s. : +- 6.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 17.01.96 Test oil : ISO 4113

Combination No. : 0 402 648 792

Injection pump

Pump designation : PE8P120A320LS7840

: -10

EP type number : 0 412 628 856

Governor

Governer design. : RQ300/1050PA1276 Governer no. : 0 421 801 806

Witt. part No. : 0270740302

Customer-spec. information
Customer : MB-NFZ
Motor : OM442A
Power KW : 250.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp.  $^{\circ}$ C :

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0 x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

## BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 5.25
Tolerance mm : + 0.05
Check

tolerance mm

Rack travel in mm : 20.50

Tolerance mm : + 0.50

Firing order : 8-7-2-6-3 :-5-4-1

: + 0.10

Phasing : 0-45-90-135-180

: -225-270-315 Tolerance : + 0.30

Check

tolerance *NW : + 0.50

Start of delivery mark

Barrel no. : 8

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 13.45 Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 212.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance cm3/1000s. : +- 4.0	<pre>+ guide sleeve + travel mm : 6.00 + Tolerance mm : + 0.10</pre>
Spreed Tolerance cm3/1000 strokes : 6.0	Rated speed rpm : 1270 guide sleeve travel mm : 11.50
Check tolerance cm3/1000s. : 9.0	Tolerance mm : + 0.50
Rated speed rpm : 300	+ Rated speed rpm : 892 + guide sleeve + travel mm : 6.26
Rack travel in mm : 6.50 Tolerance mm : +- 0.30 Del. quantity	Tolerance mm : + 0.10
cm3/1000 strokes : 13.0 Tolerance	GUIDE SLEEVE POSITION
cm3/1000 strokes : +- 3.0 Check tolerance	Rated speed rpm : 650
cm3/1000s. : +- 6.0 Spreed Tolerance	Rack travel in mm : 20.00 Tolerance mm : + 0.80
cm3/1000 strokes : 8.0 Check tolerance	FULL LOAD DELIVERY AT FULL LOAD STOP
cm3/1000s. : 12.0	Rated speed rpm : 700
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	Aneroid pressure hPa : 750 Del. quantity cm3/1000 strokes : 212.0
GUIDE SLEEVE TRAVEL	+ Tolerance + cm3/1000 strokes : +- 1.0 + Check tolerance
Rated speed rpm : 300 guide sleeve	- cm3/1000s. : +- 4.0 - Spreed
travel mm : 1.86 Tolerance mm : + 0.20	+ Tolerance + cm3/1000 strokes : 6.0 + Check tolerance
Rated speed rpm : 1103 guide sleeve	cm3/1000s. : 9.0
travel mm : 6.71 Tolerance mm : + 0.15	
Rated speed rpm : 1050 guide sleeve	CONTROL LEVER  control lever
travel mm : 6.35 Tolerance mm : + 0.10	position degree : 95.0 tolerance degree : +- 4.0
Rated speed rpm : 831 guide sleeve	RATED SPEED
travel mm : 6.09 Tolerance mm : + 0.10	rack travel mm : 11.80 Rated speed rpm : 1098 Tolerance 1/min : + 8
Rated speed rpm : 447 guide sleeve	rack travel mm : 4.00
travel mm : 4.72 Tolerance mm : + 0.10	Rated speed rpm : 1175 Tolerance 1/min : + 15
Rated speed rpm : 540	rack travel mm : 0.50 Tolerance mm : + 0.50

Rated speed rpm	: 1300	rack travel mm : 11.25 Tolerance mm : + 0.15
LOW IDLE		Rated speed rpm : 400
control lever position degree tolerance degree		Pressure hPa : 200 rack travel mm : 11.60 Tolerance mm : + 0.20 Pressure hPa : 400
Testing:		rack travel mm : 12.40 Tolerance mm : + 0.20
Rated speed rpm rack travel mm Tolerance mm	: 300 : 5.00 : + 0.10	START CUT-OUT  Rated speed rpm : > 100
rack travel mm Rated speed rpm Tolerance 1/min	: 400	Rated speed rpm : < 220
Rated speed rpm	: 200	speed 1/min : > 80 Check speed 1/min : < 240
CRT mm min.	: > 6.60	5 speed 1/11/11 : < 240
TORQUE CONTROL		FUEL DELIVERY CHARACTERISTICS
Rated speed rpm rack travel mm Tolerance mm	: 700 : 13.45 : + 0.05	+ Aneroid pressure + hPa : 750 + Rated speed rpm : 1050 + Del. quantity
Rated speed rpm rack travel mm Tolerance mm	: 1050 : 12.80 : + 0.10	cm3/1000 strokes : 194.0 Tolerance cm3/1000 strokes : +- 2.0 Check tolerance
Rated speed rpm rack travel mm Tolerance mm	: 13.15	cm3/1000s. : + 5.0  Aneroid pressure  hPa : -
Rated speed rpm rack travel mm Tolerance mm	: 13.45	Rated speed rpm : 500  Del. quantity  cm3/1000 strokes : 137.0  Tolerance
ANEROID/ALTITUDE COMPENSATOR TEST		cm3/1000 strokes : +- 1.0 Check tolerance - cm3/1000s. : +- 4.0
SETTING		BREAKAWAY
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 750 : 13.45	Rack travel in mm: 11.80 Rated speed rpm: 1098 Tolerance 1/min: + 8
MEASUREMENT		STARTING FUEL DELIVERY
Pressure hPa Rated speed rpm	: - : 400	Rated speed rpm : 100

H08

Del. quantity cm3/1000 strokes : 200.0 Tolerance cm3/1000 strokes : +- 10.0 Check tolerance

Check tolerance cm3/1000s. : + 14.0

## LOW IDLE

300 Rated speed rpm 6.50 rack travel mm Tolerance mm : + 0.30Del. quantity cm3/1000 strokes : 13.0 Tolerance cm3/1000 strokes : +-3.0 Check tolerance cm3/1000s. 6.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. 12.0

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 17.01.96 : ISO 4113 Test oil

Combination No. : 0 402 648 794

Injection pump

Pump designation : PE8P12OA32OLS7890 EP type number : 0 412 628 913

Governor

Governer design. : RQV350...900PA1266 Governer no. : 0 421 814 171

Cust. part No. : 0260740502

Customer-spec. information Customer : MB-NFZ : 0M442 LA Motor Power KW : 327.0

### TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C Tolerance °C : +- 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : Tolerance bar : +- 0.1

Overflow quantity

min. L/h : 100 Tolerance L/h : +- 20.0

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

: 208.5 bar Tolerance bar : +- 1.5 Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter:

x length mm : 1000

#### REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

## BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 5.25 Tolerance mm : + 0.05 Check tolerance mm : + 0.10

Rack travel in mm : 20.50 Tolerance mm : +- 0.50

Firing order : 8-7-2-6-3 : - 5- 4- 1

Phasing : 0-45-90-135-180 : -225-270-315

Tolerance : + - 0.30

Check

tolerance °NW : +- 0.50

Start of delivery mark

Barrel no. : 8

## BASIC SETTING

Rated speed rpm : 600

Rack travel in mm: 12.20

Rack travel in mm: 12.20 Tolerance mm : + 0.10
Tolerance mm : + 0.05

Del. quantity cm3/1000 strokes : 259.0	guide sleeve travel mm : 10.00 Tolerance mm : +- 0.25
Tolerance cm3/1000 strokes : + 1.0	Rated speed rpm : 1160 guide sleeve
Check tolerance cm3/1000s. : + 4.0	travel mm : 11.50 Tolerance mm : +- 0.50
Spreed Tolerance cm3/1000 strokes : 6.0	GUIDE SLEEVE POSITION  Rated speed rpm : 1032
Check tolerance cm3/1000s. : 9.0	Rack travel in mm : 13.50 Tolerance mm : + 2.00
Rated speed rpm : 350	
Rack travel in mm: 4.00 Tolerance mm: + 0.30	FULL LOAD DELIVERY AT FULL LOAD STOP
Del. quantity cm3/1000 strokes : 14.0	Rated speed rpm : 600 Aneroid pressure
Tolerance cm3/1000 strokes : + 3.0	hPa : 600 Del. quantity
Check tolerance + 6.0 +	cm3/1000 strokes : 259.0 Tolerance
Spreed +	cm3/1000 strokes : +- 1.0 Check tolerance
cm3/1000 strokes : 6.0 + Check tolerance	cm3/1000s. : +- 4.0 Spreed
cm3/1000s. : 10.0	Tolerance cm3/1000 strokes : 6.0
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	Check tolerance cm3/1000s. : 9.0
GUIDE SLEEVE TRAVEL	CONTROL LEVER
Rated speed rpm : 350 guide sleeve travel mm : 1.69 Tolerance mm : + 0.20	<pre>control lever position degree : 118.0 tolerance degree : + 4.0  RATED SPEED</pre>
Rated speed rpm : 958 guide sleeve	rack travel mm : 13.50
travel mm : 7.30 + Tolerance mm : + 0.15	Rated speed rpm : 945 Tolerance 1/min : +- 5
Rated speed rpm : 770 guide sleeve travel mm : 4.89 Tolerance mm : +- 0.25	rack travel mm : 4.00 Rated speed rpm : 1025 Tolerance 1/min : + 15
Rated speed rpm : 520 + guide sleeve +	rack travel mm : 0.75 Tolerance mm : + 0.75 Rated speed rpm : 1200
travel mm : 3.23 + Tolerance mm : + 0.25 +	
Rated speed rpm : 1073	LOW IDLE

control lever position degree	: 65.N	+++++++++++++++++++++++++++++++++++++++	Check speed 1/min :> 80 Check speed 1/min :< 290
tolerance degree		1	opeca mini
Testing:		Ŧ	FUEL DELIVERY CHARACTERISTICS
Rated speed rpm rack travel mm Tolerance mm Rated speed rpm CRT mm min.	: 4.00 : + 0.10	+++++++++++++++++++++++++++++++++++++++	Aneroid pressure hPa : 1300 Rated speed rpm : 880 Del. quantity cm3/1000 strokes : 282.0 Tolerance cm3/1000 strokes : + 3.0
		$\frac{1}{1}$	Check tolerance cm3/1000s. : +- 6.0
Rated speed rpm TORQUE CONTROL	: 350	— <u> </u>	Aneroid pressure hPa : - Rated speed rpm : 500
Rated speed rpm rack travel mm Tolerance mm	: 12.20		Del. quantity cm3/1000 strokes : 191.0 Tolerance cm3/1000 strokes : +- 1.0
Rated speed rpm rack travel mm Tolerance mm		<u> </u>	Check tolerance cm3/1000s. : +- 4.0
ANEROID/ALTITUDE COMPENSATOR TEST	225	+ + + + + + +	Rack travel in mm : 13.50 Rated speed rpm : 945 Tolerance 1/min : +- 5
Pressure hPa rack travel mm Tolerance mm	: 225 : -2.20 : +- 0.05	†	STARTING FUEL DELIVERY Rated speed rpm : 100
Pressure hPa rack travel mm Tolerance mm	: 350 : -0.90 : + 0.10	‡	Del. quantity cm3/1000 strokes : 270.0 Tolerance cm3/1000 strokes : +- 20.0
Pressure hPa rack travel mm Tolerance mm	: 850 : 0.90 : + 0.05	+	Check tolerance cm3/1000s. : +- 24.0
Pressure hPa rack travel mm Tolerance mm	: 1050 : 2.10 : + 0.10	+++++++++++++++++++++++++++++++++++++++	LOW IDLE
START CUT-OUT Rated speed rpm Rated speed rpm	: > 100 : < 270	† † †	Rated speed rpm : 350 rack travel mm : 4.00 Tolerance mm : + 0.30 Del. quantity cm3/1000 strokes : 14.0 Tolerance cm3/1000 strokes : + 3.0

Check tolerance cm3/1000s. : +- 6.0 Spreed
Tolerance
cm3/1000 strokes:

6.0

Check tolerance cm3/1000s. 10.0

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 17.01.96 Edition : ISO 4113 Test oil

Combination No. : 0 402 746 954

Injection pump

Pump designation : PES6P120A720RS7301 EP type number : 0 412 726 900

Governor

Governer design. : RQV300...1050PA1090K

Governer no. : 0 421 815 362

Cust. part No. : 9275449

Customer-spec. information Customer : LIEBHERR : D 926 TI Motor Power KW : 230.0

#### TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C Tolerance °C 40 : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5 Tolerance bar : +-0.1

Tolerance l/h: + 20.0

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

208.5 bar : +- 1.5 Tolerance bar

Test Lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3
x length mm : 1000

#### REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

## BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.15

Check

: + 0.10tolerance mm

Rack travel in mm: 10.50 : +- 1.50 Tolerance mm

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300 Tolerance : +- 0.30

Check

tolerance °NW : +- 0.50

## BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm: 14.35 Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 240.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s.

: +- 4.0

Spreed	+ Rated speed rpm : 1320
Tolerance	+ guide sleeve
cm3/1000 strokes : 5.0	+ travel mm : 13.50
	+ Tolerance mm : +- 0.50
Check tolerance	+
cm3/1000s. : 9.0	+
	→ GUIDE SLEEVE POSITION
Rated speed rpm : 350	+
•	+ Rated speed rpm : 1170
Rack travel in mm : 6.10	+
Tolerance mm : + 0.20	→ Rack travel in mm : 13.00
Del. quantity	+ Tolerance mm : +- 1.30
cm3/1000 strokes : 25.0	
Tolerance	
cm3/1000 strokes : + 3.0	FULL LOAD DELIVERY AT FULL LOAD STOP
Check tolerance	- Tomb word victorial for composition
cm3/1000s. : +- 6.0	Rated speed rpm : 1050
Spreed	Aneroid pressure
Tolerance	hPa : 1600
cm3/1000 strokes : 6.0	Del. quantity
Check tolerance	+ cm3/1000 strokes : 240.0
cm3/1000s. : 10.0	Tolerance
(10.0	- cm3/1000 strokes : + 1.0
	Check tolerance
(B) SETTING OF INJECTION PUMP	- cm3/1000s. : +- 4.0
WITH GOVERNOR	Spreed
WITH GOVERNOR	Tolerance
	- cm3/1000 strokes : 5.0
GUIDE SLEEVE TRAVEL	Check tolerance
GOIDE SPEEDE LYNNER	+ cm3/1000s. : 9.0
Dated aread non-	† Cm5/10008. : 9.0
Rated speed rpm : 300	<b>†</b>
guide sleeve travel mm : 1.69	†
	CONTROL LEUED
Tolerance mm : + 0.15	+ CONTROL LEVER
Datas mass and man a 1617	T combact laws
Rated speed rpm : 1117	t control lever
guide steeve	position degree : 121.0
travel mm : 10.38 Tolerance mm : +- 0.20	tolerance degree : +- 4.0
Tolerance mm : +- 0.20	T DATES COURS
Datad aread over a 7/4	+ RATED SPEED
Rated speed rpm : 746	
guide sleeve travel mm : 6.20	+ rack travel mm : 13.35 + Rated speed rpm : 1080
Travel mm : 0.70	
Tolerance mm : +- 0.25	Tolerance 1/min : +- 5
Tolerance mm : +- 0.25	Tolerance 1/min : + 5
Tolerance mm : + 0.25  Rated speed rpm : 353	Tolerance 1/min : + 5 + rack travel mm : 4.00
Tolerance mm : + 0.25  Rated speed rpm : 353 guide sleeve	Tolerance 1/min : + 5  rack travel mm : 4.00  Rated speed rpm : 1180
Tolerance mm : +- 0.25  Rated speed rpm : 353 guide sleeve travel mm : 2.45	Tolerance 1/min : + 5 + rack travel mm : 4.00
Tolerance mm : + 0.25  Rated speed rpm : 353 guide sleeve	Tolerance 1/min : + 5  rack travel mm : 4.00  Rated speed rpm : 1180  Tolerance 1/min : + 15
Tolerance mm : +- 0.25  Rated speed rpm : 353 guide sleeve travel mm : 2.45 Tolerance mm : +- 0.25	Tolerance 1/min : + 5  rack travel mm : 4.00  Rated speed rpm : 1180  Tolerance 1/min : + 15  rack travel mm : 0.50
Tolerance mm : +- 0.25  Rated speed rpm : 353 guide sleeve travel mm : 2.45 Tolerance mm : +- 0.25  Rated speed rpm : 403	Tolerance 1/min : + 5  rack travel mm : 4.00  Rated speed rpm : 1180  Tolerance 1/min : + 15  rack travel mm : 0.50  Tolerance mm : + 0.50
Tolerance mm : +- 0.25  Rated speed rpm : 353 guide sleeve travel mm : 2.45 Tolerance mm : +- 0.25  Rated speed rpm : 403 guide sleeve	Tolerance 1/min : + 5  rack travel mm : 4.00  Rated speed rpm : 1180  Tolerance 1/min : + 15  rack travel mm : 0.50
Tolerance mm : +- 0.25  Rated speed rpm : 353 guide sleeve travel mm : 2.45 Tolerance mm : +- 0.25  Rated speed rpm : 403 guide sleeve travel mm : 3.18	Tolerance 1/min : + 5  rack travel mm : 4.00  Rated speed rpm : 1180  Tolerance 1/min : + 15  rack travel mm : 0.50  Tolerance mm : + 0.50
Tolerance mm : +- 0.25  Rated speed rpm : 353 guide sleeve travel mm : 2.45 Tolerance mm : +- 0.25  Rated speed rpm : 403 guide sleeve	Tolerance 1/min : + 5  rack travel mm : 4.00  Rated speed rpm : 1180  Tolerance 1/min : + 15  rack travel mm : 0.50  Tolerance mm : + 0.50
Tolerance mm : +- 0.25  Rated speed rpm : 353 guide sleeve travel mm : 2.45 Tolerance mm : +- 0.25  Rated speed rpm : 403 guide sleeve travel mm : 3.18 Tolerance mm : +- 0.25	Tolerance 1/min : + 5  rack travel mm : 4.00 Rated speed rpm : 1180 Tolerance 1/min : + 15  rack travel mm : 0.50 Tolerance mm : + 0.50 Rated speed rpm : 1300
Tolerance mm : +- 0.25  Rated speed rpm : 353 guide sleeve travel mm : 2.45 Tolerance mm : +- 0.25  Rated speed rpm : 403 guide sleeve travel mm : 3.18 Tolerance mm : +- 0.25  Rated speed rpm : 450	Tolerance 1/min : + 5  rack travel mm : 4.00  Rated speed rpm : 1180  Tolerance 1/min : + 15  rack travel mm : 0.50  Tolerance mm : + 0.50
Tolerance mm : +- 0.25  Rated speed rpm : 353 guide sleeve travel mm : 2.45 Tolerance mm : +- 0.25  Rated speed rpm : 403 guide sleeve travel mm : 3.18 Tolerance mm : +- 0.25  Rated speed rpm : 450 guide sleeve	Tolerance 1/min : + 5  rack travel mm : 4.00 Rated speed rpm : 1180 Tolerance 1/min : + 15  rack travel mm : 0.50 Tolerance mm : + 0.50 Rated speed rpm : 1300
Tolerance mm : +- 0.25  Rated speed rpm : 353 guide sleeve travel mm : 2.45 Tolerance mm : +- 0.25  Rated speed rpm : 403 guide sleeve travel mm : 3.18 Tolerance mm : +- 0.25  Rated speed rpm : 450 guide sleeve travel mm : 3.66	Tolerance 1/min : + 5  rack travel mm : 4.00 Rated speed rpm : 1180 Tolerance 1/min : + 15  rack travel mm : 0.50 Tolerance mm : + 0.50 Rated speed rpm : 1300  LOW IDLE
Tolerance mm : +- 0.25  Rated speed rpm : 353 guide sleeve travel mm : 2.45 Tolerance mm : +- 0.25  Rated speed rpm : 403 guide sleeve travel mm : 3.18 Tolerance mm : +- 0.25  Rated speed rpm : 450 guide sleeve	Tolerance 1/min : + 5  rack travel mm : 4.00 Rated speed rpm : 1180 Tolerance 1/min : + 15  rack travel mm : 0.50 Tolerance mm : + 0.50 Rated speed rpm : 1300  LOW IDLE  control lever
Tolerance mm : +- 0.25  Rated speed rpm : 353 guide sleeve travel mm : 2.45 Tolerance mm : +- 0.25  Rated speed rpm : 403 guide sleeve travel mm : 3.18 Tolerance mm : +- 0.25  Rated speed rpm : 450 guide sleeve travel mm : 3.66	Tolerance 1/min : + 5  rack travel mm : 4.00 Rated speed rpm : 1180 Tolerance 1/min : + 15  rack travel mm : 0.50 Tolerance mm : + 0.50 Rated speed rpm : 1300  LOW IDLE

tolerance degree : +- 4.0	+ Rated speed rpm : 1050
Testing:	Pressure hPa : 800
Rated speed rpm : 350	rack travel mm : 13.75 Tolerance mm : + 0.05
rack travel mm : 6.10 Tolerance mm : + 0.10	Pressure hPa : 650 rack travel mm : 12.95
Rated speed rpm : 250	Tolerance mm : + 0.10
CRT mm min. :> 9.10	START CUT-OUT
Rated speed rpm : 475	Rated speed rpm : > 100
TORQUE CONTROL	Rated speed rpm : < 270
Rated speed rpm : 1050	Check speed 1/min :> 80
rack travel mm : 14.35 Tolerance mm : + 0.05	+ Check + speed 1/min : < 290
Rated speed rpm : 950	
Rated speed rpm : 950 rack travel mm : 13.85 Tolerance mm : +- 0.10	FUEL DELIVERY CHARACTERISTICS
Rated speed rpm : 900	+ Aneroid pressure + hPa : 1600
rack travel mm : 13.70 Tolerance mm : + 0.10	Rated speed rpm : 800 Del. quantity
	cm3/1000 strokes : 219.0
Rated speed rpm : 800 - rack travel mm : 13.35 - Tolerance mm : + 0.10 - rack travel mm	Tolerance 
Tolerance mm : +- 0.10	+ Check tolerance + cm3/1000S. : +- 6.0
Rated speed rpm : 600 - rack travel mm : 12.85 -	Aneroid pressure
Tolerance mm : + 0.10	├ hPa : 1600
Rated speed rpm : 500	Rated speed rpm : 500 Del. quantity
Rated speed rpm : 500 - rack travel mm : 12.85 - Tolerance mm : +- 0.10 -	cm3/1000 strokes : 199.0 Tolerance
Total differential and a second	cm3/1000 strokes : +- 3.0
ANEROID/ALTITUDE	Check tolerance : +- 6.0
CONTRACTION TEO	Aneroid pressure
SETTING	Rated speed rpm : 600  Del. quantity
Rated speed rpm : 1050 - Pressure h%a : 1600	cm3/1000 strokes : 185.0
rack travel mm : 14.35 - Tolerance mm : +- 0.05	cm3/1000 strokes : +- 1.0 Check tolerance
MEASUREMENT -	cm3/1000s. : +- 4.0 Spreed
Pressure hPa : -	Tolerance cm3/1000 strokes : 8.J
Rated speed rpm : 1050 - rack travel mm : 11.90 -	Check tolerance cm3/1000s. : 12.0
Tolerance mm : + 0.10	

#### **BREAKAWAY**

Rack travel in mm: 13.35
Rated speed rpm: 1080
Tolerance 1/min: +- 5

## STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 12.85
Tolerance mm : + 0.20
Del. quantity
cm3/1000 strokes : 155.0
Tolerance

cm3/1000 strokes : + 10.0

Check tolerance

cm3/1000s. : +- 14.0

## LOW IDLE

Rated speed rpm 350 6.10 rack travel mm Tolerance mm 0.20 Del. quantity cm3/1000 strokes 25.0 Tolerance cm3/1000 strokes 3.0 Check tolerance cm3/1000s. 6.0 Spreed Tolerance cm3/1000 strokes 6.0 Check tolerance cm3/1000s. 10.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 17.01.96 Test oil : ISO 4113

Combination No. : 0 402 846 067

Injection pump

Pump designation : PE6P12OA32ORS8015 EP type number : 0 412 826 016

Governor

Governer design. : RQV300...1050PA1225 Governer no. : 0 421 814 151

Cust. part No. : 11031773 : -P02 v.11/95

Customer—spec. information
Customer : VME
Motor : TD122KAE

Power KW : 243.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40 Tolerance °C : + 2.0

Overflow valve : 2 417 413 078

Inlet press. bar : 2.5
Tolerance bar : + 0.1

Test nozzle holde

assembly : 1 688 901 103

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.00
Tolerance mm : + 0.05
Check
tolerance mm : + 0.10

Rack travel in mm : 11.00 Tolerance mm : + 0.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300 : +- 0.30

Tolerance :  $\leftarrow$  0.3

Check

tolerance *NW : +- 0.75

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 9.30 Tolerance mm : + 0.05

_ _

Del. quantity cm3/1000 strokes : 236.0

Tolerance

cm3/1000 strokes : + 1.0

Check tolerance cm3/1000s. : +- 4.0	+ guide sleeve + travel mm : 4.67 + Tolerance mm : + 0.25
Spreed Tolerance cm3/1000 strokes : 8.0	Rated speed rpm : 1310 guide sleeve
Check tolerance cm3/1000s. : 11.0	travel mm : 11.50 Tolerance mm : + 0.50
Rated speed rpm : 325	GUIDE SLEEVE POSITION
Rack travel in mm : 3.80 Tolerance mm : + 0.30	Rated speed rpm : 1190
Del. quantity cm3/1000 strokes : 23.0 Tolerance	+ Rack travel in mm : 9.50 + Tolerance mm : +- 2.50
cm3/1000 strokes : +- 3.0 Check tolerance	FULL LOAD DELIVERY AT FULL LOAD STOP
cm3/1000s. : +- 6.0 Spreed	Rated speed rpm : 700
Tolerance cm3/1000 strokes : 5.0 Check tolerance	+ Aneroid pressure + hPa : 1500 + Del. quantity
cm3/1000s. : 8.0	cm3/1000 strokes : 236.0
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0
	+ Spreed + Tolerance
GUIDE SLEEVE TRAVEL	cm3/1000 strokes : 8.0 Check tolerance
Rated speed rpm : 325 guide sleeve	cm3/1000s. : 11.0
travel mm : 2.09 Tolerance mm : + 0.25	
Rated speed rpm : 1095	+ CONTROL LEVER
guide sleeve travel mm : 7.90 Tolerance mm : + 0.25	<pre>control lever position degree : 61.0 tolerance degree : + 4.0</pre>
Rated speed rpm : 1028 guide sleeve travel mm : 6.85	control lever position degree : 125.0
travel mm : 6.85 Tolerance mm : +- 0.25	tolerance degree : + 4.0  RATED SPEED
Rated speed rpm : 387 guide sleeve	rack travel mm : 8.30
travel mm : 2.96 Tolerance mm : + 0.25	Rated speed rpm : 1105 Tolerance 1/min : +- 5
Rated speed rpm : 437 guide sleeve	rack travel mm : 4.00 Rated speed rpm : 1165
travel mm : 3.59 Tolerance mm : +- 0.25	+ Tolerance 1/min : +- 15
Rated speed rpm : 520	+ rack travel mm : 0.50 + Tolerance mm : + 0.50 + Rated speed rpm : 1250

		Tolerance mm : +- 0.05
LOW IDLE		
		FUEL DELIVERY CHARACTERISTICS
control lever	7/ 0	†,
position degree tolerance degree		+ Aneroid pressure + hPa : -
totel ante degree	• ' 4.0	Rated speed rpm : 700
control lever		→ Del. quantity
position degree		+ cm3/1000 strokes : 188.0
tolerance degree	: +- 4.0	+ Tolerance + cm3/1000 strokes : +- 1.0
Testing:		Check tolerance
_		+ cm3/1000s. : +- 4.0
Rated speed rpm	325	†
rack travel mm Tolerance mm	: 3.80 : + 0.30	BREAKAWAY
IOCEI GIICE IIIII	. +- 0.50	TOREARAWAT
Rated speed rpm	: 225	+
007 ·		+ Rack travel in mm: 8.30
CRT mm min.	: > 5.40	+ Rated speed rpm : 1105 + Tolerance 1/min : + 5
Rated speed rpm	: 375	+ roterance minima.
a com circom i form		+
ORQUE CONTROL		STARTING FUEL DELIVERY
ORGOE CONTROL		1
lated speed rpm	: 700	Rated speed rpm : 100
rack travel mm	: 9.30	+ rack travel mm : 20.30
Tolerance mm : ← 0.05	+ Tolerance mm : + 0.50	
		+ Del. quantity + cm3/1000 strokes : 150.0
ANEROID/ALTITUDE		+ Tolerance
COMPENSATOR TEST		+ cm3/1000 strokes : +- 15.0
		+ Check tolerance
SETTING		+ cm3/1000s. : +- 19.0
E1 1 TIAG		$\frac{1}{4}$
ated speed rpm	: 500	+
ressure hPa	: 1500	101.70.7
ack travel mm	: 9.30 : +- 0.05	+ LOW IDLE
olerance mm	; <del></del> 0.05	Rated speed rpm : 325
EASUREMENT		rack travel mm : 3.80
		† Tolerance mm : +- 0.30
Pressure hPa		+ Del. quantity
lated speed rpm lack travel mm	: 500 : 7.80	+ cm3/1000 strokes : 23.0 + Tolerance
Tolerance mm	: + 0.10	+ cm3/1000 strokes : +- 3.0
TO MITO THE		- Check tolerance
Rated speed rpm	: 500	+ cm3/1000s. : +- 6.0
	. 520	+ Spreed
Pressure hPa	: 520 : 1.30	Tolerance 5.0
ack travel mm olerance mm	: +- 0.20	+ Check tolerance
TO THE STATE OF TH		+ cm3/1000s. : 8.0
naccuna hPa	• 200	1.

Pressure hPa : rack travel mm :

290 0.25

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 17.01.96 Test oil : ISO 4113

Combination No. : 0 402 846 070

Injection pump

Pump designation : PE6P12OA32ORS8040 EP type number : 0 412 826 034

Governor

Governer design. : RQV300...1050PA1247

Governer no. : 0 421 814 163

Cust. part No. : 11031221-P03v.01.96

Customer-spec. information

Customer : VME : TD 103 KCE Motor

: 186.0 Power KW

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C Tolerance °C : +- 2.0

Overflow valve : 2 417 413 078

Inlet press. bar : Tolerance bar : + 0.1

Overflow quantity

min. L/h : 165 Tolerance l/h: + 10.0

Test nozzle holde

: 1 688 901 103 assembly

Opening pressure

: 208.5 bar Tolerance bar : +- 1.5 Test Lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0

600 x length mm :

**REMARKS** 

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

26.0 Test pressure bar : Tolerance bar : +- 1.0

Prestroke mm : 4.00 Tolerance mm : + 0.05 : +- 0.05 Tolerance mm

Check

tolerance mm : + 0.10

Rack travel in mm: 12.00 Tolerance mm : +- 1.00

Firing order : 1-5-3-6-2-: 4

: 0-60-120-180-240 Phasing

: -300 Tolerance : + 0.30

Check

tolerance  $^{\circ}NW$  :  $\leftarrow$  0.75

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 500

Rack travel in mm: 11.80 Tolerance mm : + 0.05

Del. quantity cm3/1000 strokes : 318.0

		+ Toler:
Tolerance cm3/1000 strokes	s : + 1.0	GUIDE
Check tolerance cm3/1000s.	: + 4.0	Rated
Spreed Tolerance		Rack t
cm3/1000 strokes	8.0	_
Check tolerance cm3/1000s.	: 11.0	FULL L
Rated speed rpm	: 320	Aneroi
Rack travel in m	nm: 5.20	+ Del. c
Tolerance mm	: +- 0.30	+ cm3/10
Del. quantity		+ Tolera
cm3/1000 strokes	s : 50.0	+ cm3/10
Tolerance		Check
cm3/1000 strokes	s : +- 2.5	+ cm3/10
Check tolerance		Spreed
cm3/1000s.	: +- 5.0	+ Tolera
Spreed		+ cm3/10
Tolerance		+ Check
cm3/1000 strokes	5: 5.0	+ cm3/10
Check tolerance		+
cm3/1000s.	: 8.0	Ť
cm3/1000s.	: 8.0	Ī
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(B) SETTING OF I		+
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(B) SETTING OF I WITH GOVERNOR  GUIDE SLEEVE TRA  Rated speed rpm guide sleeve	NJECTION PUMP  VEL  : 320	contro positi tolera
(B) SETTING OF I WITH GOVERNOR  GUIDE SLEEVE TRA  Rated speed rpm guide sleeve travel mm	NJECTION PUMP	contro positi tolera contro positi
(B) SETTING OF I WITH GOVERNOR  GUIDE SLEEVE TRA  Rated speed rpm guide sleeve	NJECTION PUMP  VEL  : 320	contro positi tolera contro positi
(B) SETTING OF I WITH GOVERNOR  GUIDE SLEEVE TRA  Rated speed rpm guide sleeve travel mm Tolerance mm	: 320 : 1.34 : + 0.20	contro positi tolera contro positi tolera RATED
(B) SETTING OF I WITH GOVERNOR  GUIDE SLEEVE TRA  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm	: 320 : 1.34 : + 0.20	contro positi tolera contro positi tolera RATED rack t
(B) SETTING OF I WITH GOVERNOR  GUIDE SLEEVE TRA  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve	: 320 : 1.34 : + 0.20 : 1112	contro positi tolera contro positi tolera RATED rack t Rated
(B) SETTING OF I WITH GOVERNOR  GUIDE SLEEVE TRA  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm	: 320 : 1.34 : + 0.20 : 1112 : 7.91	contro positi tolera contro positi tolera RATED rack t
(B) SETTING OF I WITH GOVERNOR  GUIDE SLEEVE TRA  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve	: 320 : 1.34 : + 0.20 : 1112	contro positi tolera contro positi tolera RATED rack t Rated Tolera
(B) SETTING OF I WITH GOVERNOR  GUIDE SLEEVE TRA  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm Tolerance mm	: NJECTION PUMP  : 320 : 1.34 : + 0.20 : 1112 : 7.91 : + 0.15	contro positi tolera contro positi tolera RATED rack t Rated Tolera rack t
(B) SETTING OF I WITH GOVERNOR  GUIDE SLEEVE TRA  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm Guide sleeve travel mm Tolerance mm	: NJECTION PUMP  : 320 : 1.34 : + 0.20 : 1112 : 7.91 : + 0.15	contro positi tolera contro positi tolera RATED rack t Rated Tolera rack t Rated
(B) SETTING OF I WITH GOVERNOR  GUIDE SLEEVE TRA  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm	: NJECTION PUMP  : 320 : 1.34 : + 0.20 : 1112 : 7.91 : + 0.15 : 806	contro positi tolera contro positi tolera RATED rack t Rated Tolera rack t
(B) SETTING OF I WITH GOVERNOR  GUIDE SLEEVE TRA  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm	: NJECTION PUMP  IVEL : 320 : 1.34 : + 0.20 : 1112 : 7.91 : + 0.15 : 806 : 5.20	contro positi tolera contro positi tolera RATED rack t Rated Tolera rack t Rated Tolera
(B) SETTING OF I WITH GOVERNOR  GUIDE SLEEVE TRA  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm	: NJECTION PUMP  : 320 : 1.34 : + 0.20 : 1112 : 7.91 : + 0.15 : 806	contro positi tolera contro positi tolera RATED rack t Rated Tolera rack t Rated Tolera rack t
(B) SETTING OF I WITH GOVERNOR  GUIDE SLEEVE TRA  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Tolerance mm	: 320 : 1.34 : + 0.20 : 1112 : 7.91 : + 0.15 : 806 : 5.20 : + 0.25	contro positi tolera contro positi tolera RATED rack t Rated Tolera rack t Rated Tolera rack t Rated Tolera
(B) SETTING OF I WITH GOVERNOR  GUIDE SLEEVE TRA  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm Guide sleeve travel mm Tolerance mm  Rated speed rpm Rated speed rpm	: NJECTION PUMP  IVEL : 320 : 1.34 : + 0.20 : 1112 : 7.91 : + 0.15 : 806 : 5.20	contro positi tolera contro positi tolera RATED rack t Rated Tolera rack t Rated Tolera rack t
(B) SETTING OF I WITH GOVERNOR  GUIDE SLEEVE TRA  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm	: 320 : 1.34 : + 0.20 : 1112 : 7.91 : + 0.15 : 806 : 5.20 : + 0.25 : 530	contro positi tolera contro positi tolera RATED rack t Rated Tolera rack t Rated Tolera rack t Rated Tolera
(B) SETTING OF I WITH GOVERNOR  GUIDE SLEEVE TRA  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm	: 320 : 1.34 : + 0.20 : 1112 : 7.91 : + 0.15 : 806 : 5.20 : + 0.25 : 530 : 3.11	contro positi tolera contro positi tolera RATED rack t Rated Tolera rack t Rated Tolera rack t Rated Tolera
(B) SETTING OF I WITH GOVERNOR  GUIDE SLEEVE TRA  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm	: 320 : 1.34 : + 0.20 : 1112 : 7.91 : + 0.15 : 806 : 5.20 : + 0.25 : 530	contro positi tolera contro positi tolera RATED rack t Rated Tolera rack t Rated Tolera rack t Rated Tolera
(B) SETTING OF I WITH GOVERNOR  GUIDE SLEEVE TRA  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Tolerance mm	: 320 : 1.34 : + 0.20 : 1112 : 7.91 : + 0.15 : 806 : 5.20 : + 0.25 : 530 : 3.11	contro positi tolera contro positi tolera RATED rack t Rated Tolera rack t Rated Tolera rack t Rated Tolera Rated Rated
(B) SETTING OF I WITH GOVERNOR  GUIDE SLEEVE TRA  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm	: 320 : 1.34 : + 0.20 : 1112 : 7.91 : + 0.15 : 806 : 5.20 : + 0.25 : 530 : 4.0.25	contro positi tolera contro positi tolera RATED rack t Rated Tolera rack t Rated Tolera rack t Rated Tolera Rated Rated
(B) SETTING OF I WITH GOVERNOR  GUIDE SLEEVE TRA  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm Rated speed rpm Rated speed rpm	: 320 : 1.34 : + 0.20 : 1112 : 7.91 : + 0.15 : 806 : 5.20 : + 0.25 : 530 : 4.0.25	contro positi tolera contro positi tolera RATED rack t Rated Tolera rack t Rated Tolera rack t Rated Tolera Rated Rated

Tolerance mm : +- 0.50 SLEEVE POSITION speed rpm : 1220 travel in mm: 11.00 ance mm : +- 2.00 LOAD DELIVERY AT FULL LOAD STOP 500 speed rpm id pressure : 1500 quantity 000 strokes : 318.0 ance 000 strokes : + 1.0 tolerance 000s. : +-4.0 ance 000 strokes : 8.0 tolerance 000s. • 11.0 OL LEVER ol lever ion degree : 45.0 ance degree : +- 4.0 ol lever ion degree : 112.0 ance degree : +- 4.0 SPEED travel mm : 9.60 speed rpm : 1090 ance 1/min : +- 5 4.00 travel mm • speed rpm 1170 ance  $1/\min$ : + 15 travel mm 0.50 : +- 0.50 ance mm speed rpm : 1250

DLE

		ŧ	
control lever position degree tolerance degree	: 84.0 : +- 4.0	† †	Pressur rack tr Toleran
control lever position degree tolerance degree	: 17.0 : ← 4.0	<del> </del>	FUEL DE
Testing:		Ţ	
Rated speed rpm rack travel mm Tolerance mm	: 320 : 5.20 : + 0.10	+	Aneroid hPa Rated s Del. qu cm3/100
Rated speed rpm	: 220	Ŧ	Toleran
CRT mm min.	: > 7.80	‡	cm3/100 Check to
Rated speed rpm	: 380	‡	cm3/100
TORQUE CONTROL		+	Aneroid hPa Rated s
Rated speed rpm rack travel mm Tolerance mm	: 500 : 11.80 : + 0.05	+ + + + + + + + + + + + + + + + + + + +	Del. qui cm3/100 Toleran cm3/100
Rated speed rpm rack travel mm Tolerance mm	: 1050 : 10.60 : + 0.10	+++++++++++++++++++++++++++++++++++++++	cm3/1000
Rated speed rpm rack travel mm Tolerance mm	: 720 : 10.90 : + 0.15	† † † †	Rack tra
ANEROID/ALTITUDE COMPENSATOR TEST		+++++++++++++++++++++++++++++++++++++++	Tolerand
SETTING		‡	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : 1500 : 11.80 : +- 0.05	† † † †	LOW IDLE Rated sp rack tra
MEASUREMENT		‡	Tolerand Del. qua
Pressure hPa Rated speed rpm rack travel mm Tolerance mm	500 8.70 + 0.10	† † † † † † † † † † † † † † † † † † † †	cm3/1000 Tolerand cm3/1000 Check to cm3/1000
Rated speed rpm	: 500	Ŧ	Spreed Tolerand
Pressure hPa rack travel mm Tolerance mm	: 900 : 2.80 : + 0.20	‡	cm3/1000 Check to cm3/1000

Pressure hPa rack travel mm Tolerance mm	: 230 : 0.25 : + 0.05
FUEL DELIVERY CHA	RACTERISTICS
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	: + 1.0
cm3/1000s.  Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: + 4.0 : 500 : 212.0 : + 1.0 : + 4.0
BREAKAWAY	
Rack travel in mm Rated speed rpm Tolerance 1/min	

# E.

Rated speed rpm rack travel mm Tolerance mm	: +	320 5.20 0.30
Del. quantity cm3/1000 strokes	:	50.0
Tolerance cm3/1000 strokes	: +-	2.5
Check tolerance cm3/1000S. Spreed	: +-	5.0
Tolerance		
cm3/1000 strokes Check tolerance	:	5.0
cm3/1000s.	:	8.0

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 17.01.96 : ISO 4113 Test oil

Combination No. : 0 402 846 071

Injection pump

Pump designation : PE6P120A320RS8040 EP type number : 0 412 862 034

Governor

Governer design. : RQV300...1100PA1248 : 0 421 814 165 Governer no.

Cust. part No. : 11031229

: -P03 v.12.95

Customer-spec. information Customer : VME

: TD 103 KBE Motor

: 214.0 Power KW

#### TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C Tolerance °C 2.0

: 2 417 413 078 Overflow valve

Inlet press. bar : 2.5 Tolerance bar : +-

Test nozzle holde

: 1 688 901 103 assembly

Opening pressure

bar 208.5 : +- 1.5 Tolerance bar

Test Lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0 x length mm : 600

# REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

# BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm 4.00 : + 0.05 Tolerance mm Check

: + 0.10tolerance mm

Rack travel in mm: 12.00 Tolerance mm : + 1.00

: 1-5-3-6-2-Firing order

: 0-60-120-180-240 Phasing

: -300

: + 0.30Tolerance

Check

: + 0.75tolerance °NW

Start of delivery mark

Barrel no.

# BASIC SETTING

Rated speed rpm : 700

Rack travel in mm: 11.00 Tolerance mm : +- 0.05

Del. quantity cm3/1000 strokes : 270.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance cm3/1000s.	: +- 4.0	Rated spe
Spreed		$ \downarrow$ Rack trav
Tolerance	. 9.0	† Tolerance
cm3/1000 strokes	: 8.0	†
Ohaali Aatamawaa	***************************************	- † ===================================
Check tolerance	11 0	+ FULL LOAD
cm3/1000s.	: 11.0	†
		+ Rated spe
Rated speed rpm	: 330	+ Aneroid p
		+ hPa
Rack travel in m	n: 4.20	+ Del. quar
Tolerance mm	: +- 0.30	+ cm3/1000
Del. quantity		+ Tolerance
cm3/1000 strokes	: 29.0	+ cm3/1000
Tolerance		+ Check tol
cm3/1000 strokes	: <del>+-</del> 2.5	+ cm3/1000s
Check tolerance		Spreed
cm3/1000S.	: +- 5.0	+ Tolerance
Spreed		cm3/1000
Tolerance		- Check tol
cm3/1000 strokes	: 5,0	- cm3/1000s
Check tolerance	. ,,,,	T (1112) (1000)
cm3/1000s.	: 8.0	I
	. 8.0	Τ
		CONTROL L
(D) CETTING OF TA	ULCETON DIMO	T CONTROL L
(B) SETTING OF IN	MECITON POMP	T
WITH GOVERNOR		+ control l
		+ position - + tolerance
GUIDE SLEEVE TRAN	JE)	- T coterance
GOINE SPEENE IKM	/CL	I control l
Rated speed rpm	• 330	+ position
guide sleeve	. 330	+ tolerance
guide steeve travel mm	: 2.10	Toterance
	: + 0.20	T DATED ODE
Tolerance mm	: 0.20	+ RATED SPE
Butual amazal mura	. 4470	Ť
Rated speed rpm	: 1130	+ rack trav
guide sleeve		+ Rated spe
travel mm	: 7.55	+ Tolerance
Tolerance mm	: <del>+-</del> 0.15	+ .
		+ rack trav
Rated speed rpm	: 1077	+ Rated spe
guide sleeve		+ Tolerance
travel mm	: 6.76	+
travel mm Tolerance mm	: +- 0.25	+ rack trav
		+ Tolerance
Rated speed rpm	: 520	+ Rated spe
guide sleeve		1
		T-
travel mm		I
travel mm		<u> </u>
travel mm	: 4.67 : ← 0.25	I OW TOLE
travel mm Tolerance mm	: 4.67 : ← 0.25	LOW IDLE
travel mm Tolerance mm Rated speed rpm	: 4.67 : ← 0.25	LOW IDLE
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travel mm Tolerance mm Rated speed rpm	: 4.67 : ← 0.25 : 1370	control l
travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	: 4.67 : ← 0.25 : 1370	control le
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travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	: 4.67 : ← 0.25 : 1370 : 11.50 : ← 0.50	control le
travel mm Tolerance mm Rated speed rpm	: 4.67 : ← 0.25 : 1370 : 11.50 : ← 0.50	control le

Rated speed rpm	: 1240
Rack travel in mm Tolerance mm	: 11.00 : + 1.50
FULL LOAD DELIVER	Y AT FULL LOAD STOP
Rated speed rpm Aneroid pressure	: 700
hPa Del. quantity	: 1500
cm3/1000 strokes	: 270.0
Tolerance cm3/1000 strokes	: + 1.0
Check tolerance cm3/1000S. Spreed	: +- 4.0
Tolerance cm3/1000 strokes	: 8.0
Check tolerance cm3/1000s.	: 11.0
control lever position degree tolerance degree control lever position degree tolerance degree	: ÷ 4.0 : 117.0
rack travel mm Rated speed rpm Tolerance 1/min	: 10.00 : 1130 : +- 5
rack travel mm Rated speed rpm Tolerance 1/min	: 4.00 : 1200 : + 15
rack travel mm Tolerance mm Rated speed rpm	: 0.50 : + 0.50 : 1275
LOW IDLE	
control lever position degree tolerance degree	: 66.0 : + 4.0

control lever 11.0 position degree : tolerance degree : +-4.0 Testing: 330 Rated speed rpm 4.20 rack travel mm Tolerance mm : + - 0.10230 Rated speed rpm : > 6.00 CRT mm min. Rated speed rpm 400 TORQUE CONTROL Rated speed rpm 700 11.00 rack travel mm : Tolerance mm : +- 0.05 ANEROID/ALTITUDE COMPENSATOR TEST SETTING Rated speed rpm 500 1500 Pressure hPa 11.00 rack travel mm : + 0.05Tolerance mm **MEASUREMENT** Pressure hPa 500 Rated speed rpm 8.60 rack travel mm : + 0.10 Tolerance mm Rated speed rpm 500 540 Pressure hPa 2.00 rack travel mm Tolerance mm : +- 0.20 240 Pressure hPa 0.25 rack travel mm Tolerance mm : +- 0.05

Del. quantity cm3/1000 strokes : 202.0 Tolerance cm3/1000 strokes : +-1.0 Check tolerance cm3/1000s. : +-4.0 BREAKAWAY Rack travel in mm : 10.00 Rated speed rpm : 1130 Tolerance 1/min : +-LOW IDLE 330 Rated speed rpm 4.20 rack travel mm Tolerance mm : +--0.30 Del. quantity cm3/1000 strokes : 29.0 Tolerance cm3/1000 strokes : +-2.5 Check tolerance cm3/1000s.: +-5.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. 8.0 End of test specification sheet

Rated speed rpm :

700

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa :

H28

### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 17.01.96 Test oil : ISO 4113

Combination No. : 0 402 846 300

# Injection pump

Pump designation : PE6P12OA32ORS8504 EP type number : 0 412 816 200

# Governor

Governer design. : RQV275...1000PA1099K Governer no. : 0 421 815 983

Cust. part No. : 1287579/4

Customer—spec. information
Customer : DAF
Motor : US 315 1

Motor : WS 315 M Power KW : 315.0

### TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp.  $^{\circ}$ C : 40 Tolerance  $^{\circ}$ C : +- 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Overflow quantity

min. l/h : 180

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : +- 1.5 Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 600

#### REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

# BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 5.35
Tolerance mm : + 0.05
Check

tolerance mm : + 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : + 0.30

Check

tolerance °NW : +- 0.50

Start of delivery mark

Barrel no. : 1

# BASIC SETTING

Rated speed rpm : 980

Rack travel in mm : 13.35
Tolerance mm : +- 0.05

Del. quantity cm3/1000 strokes : 321.5

Tolerance cm3/1000 strokes	: +- 1.0	+ Rated speed rpm : 400 + guide sleeve
Check tolerance cm3/1000s.	: +- 6.0	travel mm : 3.92 Tolerance mm : + 0.25
Spreed Tolerance cm3/1000 strokes	: 8.0	Rated speed rpm : 1310 guide sleeve travel mm : 13.50 Tolerance mm : + 0.50
Check tolerance cm3/1000s.	: 14.0	
Rated speed rpm	: 275	GUIDE SLEEVE POSITION  Rated speed rpm : 1130
Rack travel in mm Tolerance mm		Rack travel in mm: 12.70
Del. quantity cm3/1000 strokes		Tolerance mm : +- 1.30
Tolerance cm3/1000 strokes Check tolerance	: +- 3.0	FULL LOAD DELIVERY AT FULL LOAD STOP
cm3/1800s. Spreed	: + 6.0	Rated speed rpm : 980 Aneroid pressure
Tolerance cm3/1000 strokes Check tolerance	: 8.0	+ hPa : - Del. quantity - cm3/1000 strokes : 321.5
cm3/1000s.	: 14.0	Tolerance cm3/1000 strokes : + 1.0
(B) SETTING OF IN	JECTION PUMP	Check tolerance cm3/1000s. : +- 6.0 Spreed Tolerance
GUIDE SLEEVE TRAVI	EL	- cm3/1000 strokes : 8.0 - Check tolerance - cm3/1000s. : 14.0
Rated speed rpm guide sleeve	: 250	
travel mm Tolerance mm	: 1.53 : +- 0.15	CONTROL LEVER
Rated speed rpm guide sleeve travel mm Tolerance mm	: 1050 : 9.89 : + 0.20	control lever position degree : 120.0 tolerance degree : +- 4.0  RATED SPEED
Rated speed rpm guide sleeve	: 692	rack travel mm : 12.35
travel mm Tolerance mm	: 6.45 : + 0.25	Rated speed rpm : 1037 Tolerance 1/min : +- 5
Rated speed rpm guide sleeve travel mm	: 284 : 2.27 : + 0.25	rack travel mm : 4.00 Rated speed rpm : 1150 Tolerance 1/min : + 15
Tolerance mm  Rated speed rpm guide sleeve	: 334	rack travel mm : 0.70 Tolerance mm : + 0.70 Rated speed rpm : 1275
travel mm Tolerance mm	: 3.08 : + 0.25	+

LOW IDLE	
control lever position degree tolerance degree	: 76.0 : +- 4.0
Testing:	
Rated speed rpm rack travel mm Tolerance mm	: 275 : 5.80 : ← 0.10
rack travel mm Rated speed rpm Tolerance 1/min	: 2.00 : 405 : ← 30
Rated speed rpm	: 175
CRT mm min.	: > 8.00
TORQUE CONTROL Rated speed rpm	
rack travel mm Tolerance mm	: 13.35 : +- 0.05
Rated speed rpm rack travel mm Tolerance mm	: 750 : 12.75 : + 0.05
Rated speed rpm rack travel mm Tolerance mm	: 600 : 12.05 : + 0.10
Rated speed rpm rack travel mm Tolerance mm	: 500 : 12.00 : + 0.10
Rated speed rpm rack travel mm Tolerance mm	: 400 : 11.95 : + 0.10
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa rack travel mm	: 980 : 1500 : 13.35 : + 0.05

Pressure hPa Rated speed rpm rack travel mm Tolerance mm	: 750 : 980 : 12.25 : +- 0.05
Rated speed rpm	: 980
Pressure hPa rack travel mm Tolerance mm	: - : 8.90 : + 0.10
Pressure hPa rack travel mm Tolerance mm	: 420 : 10.00 : +- 0.10
FUEL DELIVERY CHA	RACTERISTICS
Aneroid pressure hPa Rated speed rpm	: - : 750
Del. quantity cm3/1000 strokes	-
Tolerance cm3/1000 strokes Check tolerance	: +- 2.0
cm3/1000s. Spreed	: +- 8.0
Tolerance cm3/1000 strokes	: 8.0
Check tolerance cm3/1000s.	: 14.0
Aneroid pressure hPa Rated speed rpm	: – : 600
Del. quantity cm3/1000 strokes	: 188.0
Tolerance cm3/1000 strokes	: +- 1.0
Check tolerance cm3/1000s.	: +- 6.0
BREAKAWAY	

Rack travel in mm : 12.35
Rated speed rpm : 1037
Tolerance 1/min : + 5

LOW IDLE

MEASUREMENT

Pressure hPa : rack travel mm : Tolerance mm

: +- 0.05

Rated speed rpm rack travel mm Tolerance mm	: : : +-	275 5.80 0.10
Del. quantity cm3/1000 strokes	:	13.0
Tolerance cm3/1000 strokes		3.0
Check tolerance	,	3.0
cm3/1000s. Spreed	; +-	6.0
Tolerance		
cm3/1000 strokes Check tolerance	:	8.0
cm3/1000s.	:	14.0

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 17.01.96 Edition Test oil : ISO 4113

Combination No. : 0 403 446 231

Injection pump

Pump designation : PES6MW100/720RS1144 : 0 413 406 138 EP type number

Governor

Governer design. : RQV300...1400MW48-8 Governer no. : 0 420 083 175

Cust. part No. :

Customer-spec. information Customer : M8-NFZ : OM 366 A Motor Power KW : 125.0

# TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C 40 Tolerance °C 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

: 208.5 bar : + 1.5 Tolerance bar

Test Lines : 1 680 715 015

Outside diameter : 6.0

x inside diameter: 3.0 x length mm :

#### REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

# BEGINNING OF DELIVERY

Test pressure bar : 31.0 Tolerance bar : +- 1.0

Prestroke mm 3.55 Tolerance mm : +- 0.05 Check

: +- 0.10 tolerance mm

Rack travel in mm: 10.50 Tolerance mm : + 1.50

: 1-5-3-6-2-Firing order

: 0-60-120-180-240 Phasing

: -300 Tolerance : +- 0.50

Check

tolerance °NW : +- 0.75

#### BASIC SETTING

Rated speed rpm : 1400

Rack travel in mm: 10.95 Tolerance mm :  $\leftarrow$  0.05

Del. quantity

cm3/1000 strokes : 75.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s. : +- 3.0

Spreed

Tolerance

cm3/1000 strokes : 3.5

	+
Check tolerance cm3/1000s. : 6.0	FULL LOAD DELIVERY AT FULL LOAD STOP
Rated speed rpm : 300	Rated speed rpm : 1400 Aneroid pressure
Rack travel in mm : 8.55 Tolerance mm : + 0.25	+ hPa : -  Del. quantity
Del. quantity cm3/1000 strokes : 11.0	+ cm3/1000 strokes : 75.0 + Tolerance
Tolerance cm3/1000 strokes : + 2.0	cm3/1000 strokes : + 1.0 Check tolerance
Check tolerance cm3/1000s. : +- 4.5	cm3/1000s. : + 3.0 Spreed
Spreed Tolerance cm3/1000 strokes : 3.5	Tolerance cm3/1000 strokes : 3.5 Check tolerance
Check tolerance cm3/1000s. : 5.5	cm3/1000s. : 6.0
	<u> </u>
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	CONTROL LEVER
	+ control lever
GUIDE SLEEVE TRAVEL	position degree : 111.0 tolerance degree : +- 4.0
Rated speed rpm : 300 guide sleeve	RATED SPEED
travel mm : 1.22	+ rack travel mm : 9.90
Tolerance mm : + 0.20	+ Rated speed rpm : 1445 + Tolerance 1/min : +- 5
Rated speed rpm : 1453 guide sleeve	+ rack travel mm : 4.00
travel mm : 8.30	+ Rated speed rpm : 1550
Tolerance mm : + 0.15	↑ Tolerance 1/min : ÷ 15
Rated speed rpm : 594 guide sleeve	+ rack travel mm : 0.50 + Tolerance mm : + 0.50
travel mm : 3.30 Tolerance mm : +- 0.25	Rated speed rpm : 1650
Rated speed rpm : 400	
guide sleeve travel mm : 2.30	LOW IDLE
Tolerance min : + 0.25	control lever
Rated speed rpm : 1770 guide sleeve	position degree : 81.0 tolerance degree : + 4.0
travel mm : 11.50	+
Tolerance mm : + 0.50	Testing:
GUIDE SLEEVE POSITION	Rated speed rpm : 300 rack travel mm : 8.55 Tolerance mm : + 0.25
Rated speed rpm : 1500	Rated speed rpm : 200
Rack travel in mm: 10.00 - Tolerance mm: +- 2.70 -	CRT mm min. :> 9.50
- Total and the state of the st	The second secon

### TORQUE CONTROL

Rated speed rpm	:	1400
rack travel mm	:	10.95
Tolerance mm	:	+ 0.05

Rated speed rpm 750 rack travel mm 12.20 Tolerance mm : + - 0.10

Rated speed rpm 950 11.95 rack travel mm Tolerance mm : ← 0.15

1200 Rated speed rpm 11.15 rack travel mm Tolerance mm : +- 0.15

#### START CUT-OUT

Rated	speed	rpm	: >	100
Rated	speed	rpm	: <	200

Check

speed 1/min 80 Check

230 speed 1/min : <

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa 750 Rated speed rpm Del. quantity 76.5 cm3/1000 strokes : Tolerance cm3/1000 strokes : +-1.5 Check tolerance

cm3/1000s. 4.0 Spreed

Tolerance

cm3/1000 strokes : 5.0

Check tolerance cm3/1000s.

7.0

# BREAKAWAY

9.90 Rack travel in mm: Rated speed rpm : Tolerance 1/min

#### STARTING FUEL DELIVERY

:	100
:	19.50
: +-	1.50
:	85.0
: +-	5.0
: +-	8.0
	: +-

# LOW IDLE

Rated speed rpm rack travel mm Tolerance mm Del. quantity	: 300 : 8.55 : + 0.25
cm3/1000 strokes	: 11.0
Tolerance cm3/1000 strokes Check tolerance	: + 2.0
cm3/1000s.	: <del>←</del> 4.5
Tolerance cm3/1000 strokes	: 3.5
Check tolerance cm3/1000s.	: 5.5
	- **

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 31.01.96 Test oil : ISO 4113

Combination No. : 0 400 074 090

Injection pump

Pump designation : PES4M55C32ORS175 EP type number : 0 410 054 957

Governor

Governer design. : RSV350...1650M0C353

: -13

Governer no. : 0 420 033 050

Cust. part No. :

Customer—spec. information Customer : MB-NFZ

Motor : 0M601 (2,3L)

Power KW : 50.0

#### TEST BENCH REQUIREMENTS

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 469 990 351

Inlet press. bar : 1.0

Test nozzle holde

assembly : 1 688 901 111

Opening pressure

bar : 148.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0

x length mm : 600

#### REMARKS

(A) INJECTION PUMP SETTING VALUES Set equal delivery quant. per values _____

# BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 2.05
Tolerance mm : + 0.05
Check

tolerance mm : + 0.10

Rack travel in mm : 21.00 Tolerance mm : + 1.00

Firing order : 1-3-4-2

Phasing : 0-90-180-270

# BASIC SETTING

Rated speed rpm : 1630

Rack travel in mm : 11.85
Tolerance mm : + 0.05

Del. quantity cm3/1000 strokes : 39.5

Tolerance cm3/1000 strokes : +- 0.5

Check tolerance cm3/1000s. : + 1.5

Spreed Tolerance

cm3/1000 strokes : 2.5

Check tolerance cm3/1000s. : 3.0

Rated speed rpm : 350

Del. quantity

cm3/1000 strokes : 7.0

Tolerance

cm3/1000 strokes : +- 1.0

J08

Spreed Tolerance cm3/1000 strokes : 1.0 (B) SETTING OF INJECTION PUMP WITH GOVERNOR GUIDE SLEEVE POSITION Rated speed rpm 008 Rack travel in mm : 0.65 Tolerance mm : +-0.35FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm 1630 Ref. pressure ALDA / ADA hPa Del. quantity cm3/1000 strokes : 39.5 Tolerance cm3/1000 strokes : +-0.5 Check tolerance cm3/1000s. 1.5 Spreed Tolerance cm3/1000 strokes : 2.5 Check tolerance cm3/1000s. 3.0 RATED SPEED control lever 106.0 position degree rack travel mm 1.00 0.70 Tolerance mm 2000 Rated speed rpm LOW IDLE control lever position degree 70.0 tolerance degree : +-4.0 SET IDLE AUXILIARY SPRING Rated speed rpm 350

5.40

: + 0.10

Load pick-up Rated speed rpm 100 CRT mm min. 20.10 : > rack travel mm 5.40 Rated speed rpm 350 SET IDLE AUXILIARY SPRING Rated speed rpm : 100 TORQUE CONTROL Rated speed rom 1630 rack travel mm 11.85 Tolerance mm : + 0.05Rated speed rpm : 1000 11.80 rack travel mm Tolerance mm : + 0.10FUEL DELIVERY CHARACTERISTICS Ref. pressure ALDA / ADA hPa : Rated speed rpm 1000 Del. quantity cm3/1000 strokes : 38.0 Tolerance cm3/1000 strokes : +-1.0 Check tolerance cm3/1000s. 2.0 : +-Spreed Tolerance cm3/1000 strokes : 2.5 Check tolerance cm3/1000s. 3.0 STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.10
Del. quantity
cm3/1000 strokes : 54.0
Spreed
Tolerance
cm3/1000 strokes : 6.0
Check tolerance
cm3/1000s. : 6.0

rack travel mm

Tolerance mm

# LOW IDLE

Rated speed rpm 350 rack travel mm 5.60 0.30 Tolerance mm

Del. quantity cm3/1000 strokes : 7.8 Check tolerance cm3/1000s.

2.3

Spreed

Check tolerance

cm3/1000s. 1.5

# SETTING PNEUMATIC FAST IDLE (ELA)

control lever

70.0 position degree : tolerance degree : +-

# SETTING/TESTING ELECTRONIC IDLE REGULATION (ELR)

control lever

position degree 70.0 tolerance degree : + 4.0

control lever

position degree : 106.0

# **ADJUSTMENT**

control lever

position degree : 106.0

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 31.01.96 Edition : ISO 4113 Test oil

Combination No. : 0 401 846 958

Injection pump

Pump designation : PE6P120A720RS3291 EP type number : 0 411 826 800

Governor

Governer design. : RQV300...1000PA1016 Governer no. : 0 421 813 964

Cust. part No. :

Customer-spec. information

: IVECO-UNIC Customer : 8210.22.521 Motor

# TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet

temp. °C Tolerance °C 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5 Tolerance bar : + 0.1

Test nozzle holde

: 1 688 901 019 assembly

Opening pressure

208.5 bar : <del>+-</del> 1.5 Tolerance bar

Test Lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 1000

### REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

# BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : + 0.05Tolerance mm Check

tolerance mm : + 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

: 1-5-3-6-2-Firing order

Phasing : 0-60-120-180-240

: -300 : + 0.30

Tolerance Check

tolerance °NW : +- 0.50

# BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 11.05 Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 226.0

Tolerance

cm3/1000 strokes : + 1.0

Check tolerance

cm3/1000s. : +- 4.0

Spreed

Tolerance

cm3/1000 strokes : 5.0

	+		
Check tolerance cm3/1000s. : 9.	.0	FULL LOAD DELIVER	Y AT FULL LOAD STOP
Rated speed rpm : 300	<u> </u>	Rated speed rpm Aneroid pressure	: 1000
Rack travel in mm : > 4.0	oo I	hPa	: 700
Tolerance mm : +- 0.2		Del. quantity	204.2
Del. quantity cm3/1000 strokes : 22.	.n ‡	cm3/1000 strokes Tolerance	: 226.0
Tolerance	+	cm3/1000 strokes	: + 1.0
<pre>cm3/1000 strokes : +- 3. Check tolerance</pre>	.0 ±	Check tolerance cm3/1000s.	: +- 4.0
cm3/1000s. : +- 6.	.0	Spreed	• • •••
Spreed Tolerance	†	Tolerance cm3/1000 strokes	: 5.0
cm3/1000 strokes : 8.	.o I	Check tolerance	
Check tolerance	+	cm3/1000s.	: 9.0
cm3/1000s. : 12.	.0 ‡		
(B) SETTING OF INJECTION PL	JMP +	CONTROL LEVER	
MIIII GOVENNON	Į	control lever	
CUIDE OF FEVE TRAVEL	+	position degree	
GUIDE SLEEVE TRAVEL	‡	tolerance degree	: +- 4.0
Rated speed rpm : 300 guide sleeve	‡	RATED SPEED	
travel mm : 1.3		rack travel mm	: 10.00
Tolerance mm : +- 0.2	1	Rated speed rpm Tolerance 1/min	: 1045 : +- 5
Rated speed rpm : 1059	+		4.00
guide sleeve travel mm : 8.5	50 I	rack travel mm Rated speed rpm	: 4.00 : 1140
Tolerance mm : + 0.1		Tolerance 1/min	: +- 15
Rated speed rpm : 712	‡	rack travel mm	: 0.50
<pre>guide sleeve travel mm : 5.4</pre>		Tolerance mm Rated speed rpm	: + 0.50 · 1250
travel mm : 5.4 Tolerance mm : +- 0.2		hated speed I pill	. 1230
Rated speed rpm : 440	+		
guide sleeve	Ī	LOW IDLE	
travel mm : 3.4			
Tolerance mm : +- 0.2	± ±	control lever	
Rated speed rpm : 1270	+	position degree	
guide sleeve travel mm : 11.5	·n 1	tolerance degree	: +- 4.0
Tolerance mm : + 0.5		Testing:	
	‡	Rated speed rpm	: 300
GUIDE SLEEVE POSITION	+	rack travel mm	: 4.00
Rated speed rpm : 1130	<u> </u>	Tolerance mm	: + 0.10
	_	Rated speed rpm	: 100
Rack travel in mm: 11.0 Tolerance mm: +- 2.7		CRT mm min.	: > 6.00
roterance min : +- 2.7	Ī	CAT IND BELL	. > 0.00
	•		

Rated speed rpm 360 Check tolerance cm3/1000s. 4.0 : +-TORQUE CONTROL BREAKAWAY 1000 Rated speed rpm 11.05 rack travel mm Tolerance mm : +- 0.05 Rack travel in mm : 10.00 Rated speed rpm : 1045 Rated speed rpm 500 Tolerance 1/min rack travel mm 11,10 : + - 0.10Tolerance mm STARTING FUEL DELIVERY ANEROID/ALTITUDE COMPENSATOR TEST Rated speed rpm 100 Del. quantity cm3/1000 strokes : 250.0 SETTING Tolerance cm3/1000 strokes : + 10.0500 Check tolerance Rated speed rpm 700 cm3/1000s. : +- 14.0 Pressure hPa 11.05 rack travel mm : +- 0.05 Tolerance mm **MEASUREMENT** LOW IDLE 500 Rated speed rpm Rated speed rpm 300 Pressure hPa 180 rack travel mm : > 4.00 : : +rack travel mm 9.35 Tolerance mm 0.20 : + 0.15Del. quantity Tolerance mm cm3/1000 strokes 22.0 Pressure hPa 220 Tolerance rack travel mm 10.35 cm3/1000 strokes : +-3.0 Check tolerance Tolerance mm : + 0.05 cm3/1000s. 6.0 Spreed Tolerance cm3/1000 strokes : 8.0 FUEL DELIVERY CHARACTERISTICS Check tolerance cm3/1000s.12.0 Aneroid pressure 700 hPa Rated speed rpm 500 Del. quantity cm3/1000 strokes : 226.0 Tolerance End of test specification sheet cm3/1000 strokes 2.0 Check tolerance 5.0 cm3/1000s. Aneroid pressure hPa 500 Rated speed rpm Del. quantity cm3/1000 strokes : 156.0 Tolerance

cm3/1000 strokes : + 1.0

# Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 31.01.96 : ISO 4113 Test oil

Combination No. : 0 401 876 747

# Injection pump

Pump designation : PE6P110A320RS3162 EP type number : 0 411 816 748

### Governor

Governer design. : RSV200...900P1/421 Governer no. : 0 421 833 132

: 849194 P03 v. 6/95 Cust. part No.

Customer-spec. information

Customer : VOLVO-PENTA : TMD 100 C Motor : 177.0 Power KW

### TEST BENCH REQUIREMENTS

Inlet line : 3.2

Vibration

damper

(RoBo diaphragm): 4.1

Test oil inlet

temp. °C 40 Tolerance °C 2.0

Overflow valve : 2 417 413 077

Inlet press. bar : 1.5

Test nozzle holde

: 0 681 343 009 assembly

Opening pressure

173.5 bar : +- 1.5 Tolerance bar

Test Lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 600

#### REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

# BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 3.55 : + 0.05Tolerance mm Check

tolerance mm

: +- 0.10

Rack travel in mm: 10.50 Tolerance mm : +- 1.50

Firing order : 1-5-3-6-2-

: 0-60-120-180-240 Phasing

: -300

Tolerance : + 0.30

Check

: +- 0.50 tolerance °NW

Start of delivery mark

Tolerance : +- 0.50

Check

tolerance °NW : + - 0.75

Barrel no. : 1

# BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 12.25

: +- 0.05 Tolerance mm

Tolerance cm3/1000 strokes : + 1.0  Check tolerance cm3/1000s. : + 4.0  Spreed Tolerance cm3/1000s. : + 4.0  Check tolerance cm3/1000s. : 7.5  Control Lever position degree : 96.0 tolerance degree : + 4.0  Control lever position degree : + 4.0  Control	Del. quantity cm3/1000 strokes : 154.0	+ Check tolerance + cm3/1000s. : + 4.0 + Spreed
Check tolerance cm3/1000s. : + 4.0  Spreed Tolerance cm3/1000 strokes : 4.0  Check tolerance cm3/1000s. : 7.5  Rated speed prm : 250  Rack travel in mm : 6.70 Tolerance mm : + 0.20 Del. quantity cm3/1000 strokes : 20.0 Tolerance mm/1/1000 strokes : 20.0 Tolerance mm/1/1000 strokes : 20.0 Tolerance cm3/1000 strokes : + 4.5 Spreed Tolerance cm3/1000 strokes : 3.0  (B) SETTING OF INJECTION PUMP WITH GOVERNOR  GUIDE SLEEVE POSITION  Rated speed rpm : 800  Rack travel in mm : 0.50 Tolerance mm : + 0.20 Deverous pring pre-tension click setting x : 4.00  Rated speed rpm : 700 Rated speed rpm : 700 Rated speed rpm : 700 Rated speed rpm : 250 Rated speed rpm : 250 Rated speed rpm : 250 Rated speed rpm : 700 Rated speed rpm : 700 Rated speed rpm : 700 Rated speed rpm : 700 Rated speed rpm : 700 Rated speed rpm : 700 Rated speed rpm : 700 Rated speed rpm : 700 Rated speed rpm : 700 Rated speed rpm : 250 Rated speed rpm : 250 Rated speed rpm : 250 Rated speed rpm : 250 Rated speed rpm : 250 Rated speed rpm : 250 Rated speed rpm : 250 Rated speed rpm : 250 Rated speed rpm : 250 Rated speed rpm : 250 Rated speed rpm : 250 Rated speed rpm : 250 Rated speed rpm : 250 Rated speed rpm : 250 Rated speed rpm : 250 Rated speed rpm : 250 Rated speed rpm : 250 Rated speed rpm : 250 Rated speed rpm : 250 Rated speed rpm : 250 Rated speed rpm : 4.010 Tolerance mm : 4.010 Tolerance mm : 4.010 Tolerance mm : 4.010 Tolerance mm : 4.010 Tolerance mm : 4.010 Tolerance mm : 4.010 Tolerance mm : 4.010 Tolerance mm : 4.010 Tolerance mm : 4.010 Tolerance mm : 4.010 Tolerance mm : 4.010 Tolerance mm : 4.010 Tolerance mm : 4.010 Tolerance mm : 4.010 Tolerance mm : 4.010 Tolerance mm : 4.010 Tolerance mm : 4.010 Tolerance mm : 4.010 Tolerance mm : 4.010 Tolerance mm : 4.010 Tolerance mm : 4.010 Tolerance mm : 4.010 Tolerance mm : 4.010 Tolerance mm : 4.010 Tolerance mm : 4.010 Tolerance mm : 4.010 Tolerance mm : 4.010 Tolerance mm : 4.010 Tolerance mm : 4.010 Tolerance mm : 4.010 Tolerance mm : 4.010 Tolerance mm : 4.010 Tolerance mm : 4.010 Toler		Tolerance cm3/1000 strokes : 4.0
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(B) SETTING OF INJECTION PUMP WITH GOVERNOR  GUIDE SLEEVE POSITION  Rated speed rpm : 800  Rack travel in mm : 0.50  Tolerance mm : + 0.20  governor spring pre-tension click setting x : 4.00  FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 700  Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : + 1.0  Rated speed rpm : 250 rack travel mm : 6.70 Tolerance mm : + 0.10  Rated speed rpm : 250 rack travel mm : 6.70 Tolerance mm : + 0.10  rack travel mm : 2.00		
GUIDE SLEEVE POSITION  Rated speed rpm : 800		+ Rated speed rpm : 1140
Rated speed rpm : 800  Rack travel in mm : 0.50 Tolerance mm : + 0.20  governor spring pre-tension click setting x : 4.00  FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 700 Rated speed rpm : 700 Rated speed rpm : 700 Rated speed rpm : 250 Rated speed rpm : 250 Rated speed rpm : 250 Rated speed rpm : 250 Rated speed rpm : 250 Rated speed rpm : 250 Rated speed rpm : 250 Rated speed rpm : 250 Rated speed rpm : 250 Rated speed rpm : 250 Rated speed rpm : 250 Tolerance mm : 4.00  Rated speed rpm : 250 Rated speed rpm : 250 Rated speed rpm : 250 Rated speed rpm : 250 Rated speed rpm : 250 Rated speed rpm : 250 Rated speed rpm : 250 Rated speed rpm : 250 Rated speed rpm : 250 Rated speed rpm : 250 Rated speed rpm : 250 Rated speed rpm : 250 Rated speed rpm : 250 Rated speed rpm : 250 Rated speed rpm : 250 Rated speed rpm : 250 Rated speed rpm : 250 Rated speed rpm : 250 Rated speed rpm : 250 Rated speed rpm : 250 Rated speed rpm : 250 Rated speed rpm : 250 Rated speed rpm : 250 Rated speed rpm : 250 Rated speed rpm : 250 Rated speed rpm : 250 Rated speed rpm : 250 Rated speed rpm : 250 Rated speed rpm : 250 Rated speed rpm : 250 Rated speed rpm : 250 Rated speed rpm : 250 Rated speed rpm : 250 Rated speed rpm : 250 Rated speed rpm : 250 Rated speed rpm : 250 Rated speed rpm : 250 Rated speed rpm : 250 Rated speed rpm : 250 Rated speed rpm : 250 Rated speed rpm : 250 Rated speed rpm : 250		LOW IDLE
Rated speed rpm : 800  Rack travel in mm : 0.50 Tolerance mm : + 0.20  governor spring pre-tension click setting x : 4.00  FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 700 Rated speed rpm : 700 Rated speed rpm : 700  Rated speed rpm : 250 Poel. quantity cm3/1000 strokes : 154.0  Tolerance cm3/1000 strokes : + 1.0	GUIDE SLEEVE POSITION	<del>-</del>
tolerance degree : + 4.0  Rack travel in mm : 0.50  Tolerance mm : + 0.20  governor spring pre-tension click setting x : 4.00  FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 700  Rated speed rpm : 700  Rated speed rpm : 700  Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 154.0  Tolerance cm3/1000 strokes : + 1.0	Rated speed rpm : 800	
Tolerance mm : + 0.20  governor spring pre-tension click setting x : 4.00  FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 700 Rated speed rpm : 700 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 154.0  Tolerance cm3/1000 strokes : + 1.0  Tolerance cm3/1000 strokes : + 2.00	The second secon	
governor spring pre-tension click setting x : 4.00  FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 700 Rated speed rpm : 700 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 154.0  Tolerance cm3/1000 strokes : +- 1.0  Tolerance degree : +- 4.0  Setting point w/out bumper spring  Rated speed rpm : 250 rack travel mm : 6.70 Tolerance mm : +- 0.10  Tolerance mm : 2.00	Tolerance mm : + 0.20	
Pre-tension click setting x : 4.00  Setting point w/out bumper spring  Rated speed rpm : 250 rack travel mm : 6.20  Rated speed rpm : 700  Rated speed rpm : 700  Rated speed rpm : 250 rack travel mm : 6.70 rack travel mm : 6.70 rack travel mm : 6.70 rack travel mm : 6.70 rack travel mm : 6.70 rack travel mm : 6.70 rack travel mm : 2.00	governor spring	+ position degree : 69.0 + tolerance degree : + 4.0
Rated speed rpm : 250  FULL LOAD DELIVERY AT FULL LOAD STOP rack travel mm : 6.20  Rated speed rpm : 700  Rated speed rpm : 6.20  Testing:  Rated speed rpm : 250  Rated speed rpm : 250  Rated speed rpm : 250  rack travel mm : 6.70  rack travel mm : 6.70  Tolerance  cm3/1000 strokes : + 1.0  Rated speed rpm : 250  rack travel mm : 2.00	pre-tension	+
FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 700  Aneroid pressure  hPa : - Rated speed rpm : 250  Del. quantity rack travel mm : 6.70  cm3/1000 strokes : 154.0  Tolerance  cm3/1000 strokes : + 1.0  Tolerance rack travel mm : 2.00	click setting x : 4.00	+ Setting point w/out bumper spring +
Aneroid pressure  hPa : -	FULL LOAD DELIVERY AT FULL LOAD STOP	Rated speed rpm : 250 + rack travel mm : 6.20
Aneroid pressure  hPa : -		+
Del. quantity	Aneroid pressure	+
Tolerance + rack travel mm : 2.00	Del. quantity	+ rack travel mm : 6.70
$cm3/1000$ strokes : +- 1.0 $\rightarrow$ rack travel mm : 2.00		+ Tolerance mm : +- 0.10
		rack travel mm : 2.00 Rated speed rpm : 360

Tolerance 1/min : + 30

TORQUE CONTROL

Rated speed rpm : 700 rack travel mm : 12.25 Tolerance mm : + 0.05

**BREAKAWAY** 

Rack travel in mm: 11.20
Rated speed rpm: 945
Tolerance 1/min: + 5

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 20.50 Tolerance mm : + 0.50 Del. quantity cm3/1000 strokes : 150.0

Tolerance

cm3/1000 strokes : + 10.0

Check tolerance

cm3/1000s. : + 10.0

LOW IDLE

Rated speed rpm : 250
rack travel mm : 6.70
Tolerance mm : + 0.20
Del. quantity
cm3/1000 strokes : 20.0

Tolerance

cm3/1000 strokes : +- 2.0

Check tolerance

cm3/1000s. : +- 4.5

Spreed Tolerance

cm3/1000 strokes : 3.0

Check tolerance

cm3/1000s. : 6.0

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 29.01.96 Test oil : ISO 4113

Combination No. : 0 401 876 811

# Injection pump

Pump designation : PE6P120A320RS3313 EP type number : 0 411 826 807

### Governor

Governer design. : RSV350...1050P8A558

: -4

Governer no. : 0 421 833 516

Cust. part No. : 1379584

Customer—spec. information Customer : SCANIA Motor : DSC943A

### TEST BENCH REQUIREMENTS

Inlet line : 3.1

Vibration

damper

(RoBo diaphragm): 4.2

Test oil inlet

temp. °C : 40 Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 2.5
Tolerance bar : + 0.1

Test nozzle holde

assembly : 1 688 901 104

Opening pressure

bar : 251.5 Tolerance bar : + 1.5 Test Lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

# (A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

# BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.45
Tolerance mm : + 0.05
Check

CHECK

tolerance mm : + 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

. 4

Phasing : 0-60-120-180-240

: -300

Tolerance :  $\leftarrow$  0.30

Check

tolerance °NW : + 0.50

Start of delivery mark

Tolerance : + 0.50

Check

tolerance °NW : + 0.75

Barrel no. : 1

# BASIC SETTING

Rated speed rpm : 700

, 00

Rack travel in mm: 12.75 Tolerance mm: +- 0.05	Del. quantity cm3/1000 strokes : 174.0 Tolerance
Del. quantity	cm3/1000 strokes : +- 1.0 Check tolerance
cm3/1000 strokes : 174.0 +	cm3/1000s. : +- 4.0 Spreed Tolerance
cm3/1000 strokes : + 1.0	cm3/1000 strokes : 8.0 Check tolerance
Check tolerance cm3/1000s. : + 4.0	cm3/1000s. : 12.0
Spreed Tolerance	CONTROL LEVER
cm3/1000 strokes : 8.0	control lever
Check tolerance	position degree : 58.0
cm3/1000s. : 12.0	tolerance degree : +- 4.0
Rated speed rpm : 350	control lever
Rack travel in mm : 5.10	position degree : 108.0 tolerance degree : +- 4.0
Tolerance mm : +- 0.30	
Del. quantity	RATED SPEED
cm3/1000 strokes : 18.0	rack travel mm : 11.00
cm3/1000 strokes : +- 3.0	Rated speed rpm : 1095
Check tolerance	Tolerance 1/min : +- 5
cm3/1000s. : +- 6.0 +	
Spreed	rack travel mm : 4.00
Tolerance + cm3/1000 strokes : 4.0 +	Rated speed rpm : 1165 Tolerance 1/min : +- 15
Check tolerance	Total and That it is
cm3/1000s. : 8.0	rack travel mm : 0.85
†	Tolerance mm : +- 0.55
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	Rated speed rpm : 1300
+	LOW IDLE
GUIDE SLEEVE POSITION	
00102 022242 100211014	control lever
Rated speed rpm : 800	position degree : 77.0 tolerance degree : +- 4.0
Rack travel in mm: 0.50	
Tolerance mm : + 0.20 +	control lever
governor spring	position degree : 28.0 tolerance degree : +- 4.0
pre-tension +	total allocation and the second
click setting x : 6.00	Setting point w/out bumper spring
	Rated speed rpm : 350
FULL LOAD DELIVERY AT FULL LOAD STOP	rack travel mm : 4.60
Rated speed rpm : 700 +	Testing:
hPa : - +	Rated speed rpm : 350
+	rack travel mm : 5.10

Tolerance mm	: +- 0.10	+ Aneroid pressure
rack travel mm Rated speed rpm Tolerance 1/min	: 550	hPa : - Rated speed rpm : 1050 Del. quantity cm3/1000 strokes : 154.0 Tolerance
TORQUE CONTROL		cm3/1000 strokes : +- 4.0 Check tolerance
Rated speed rpm rack travel mm Tolerance mm		- cm3/1000s. : +- 6.0 - Aneroid pressure - hPa : - - Rated speed rpm : 500
Rated speed rpm rack travel mm Tolerance mm	: 12.75	Del. quantity - cm3/1000 strokes : 114.0 - Tolerance - cm3/1000 strokes : + 1.0
Rated speed rpm rack travel mm Tolerance mm	: 900 : 13.45 : + 0.10	Check tolerance cm3/1000s. : + 4.0
Rated speed rpm rack travel mm Tolerance mm	: 13.05	BREAKAWAY
ANEROID/ALTITUDE COMPENSATOR TEST		Rack travel in mm: 11.00 Rated speed rpm: 1095 Tolerance 1/min: + 5
SETTING		STARTING FUEL DELIVERY
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : 1500 : 12.75 : ← 0.05	Rated speed rpm : 100 rack travel mm : 10.50 Tolerance mm : + 0.20 Del. quantity cm3/1000 strokes : 100.0
MEASUREMENT  Pressure hPa Rated speed rpm rack travel mm Tolerance mm	: - : 500 : 10.50 : +- 0.20	Tolerance
Rated speed rpm	: 500	LOW IDLE
Pressure hPa rack travel mm Tolerance mm	: 230 : 10.95 : ← 0.15	Rated speed rpm : 350 rack travel mm : 5.10 Tolerance mm : + 0.30
Pressure hPa rack travel mm Tolerance mm	: 310 : 11.35 : ← 0.05	Del. quantity cm3/1000 strokes : 18.0 Tolerance cm3/1000 strokes : + 3.0 Check tolerance cm3/1000s. : + 6.0
FUEL DELIVERY CHA	RACTERISTICS	+ Spreed + Tolerance + cm3/1000 strokes : 4.0

cm3/1000S.	:	8.0	

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# Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 30.01.96 Edition : ISO 4113 Test oil

Combination No. : 0 401 876 812

### Injection pump

Pump designation : PE6P12OA32ORS3313 EP type number : 0 411 826 807

#### Governor

Governer design. : RSV350...1050P8A558

: -5

: 0 421 833 517 Governer no.

Cust. part No. : 1379537

Customer-spec. information Customer : SCANIA : DSC943A Motor

# TEST BENCH REQUIREMENTS

Inlet line : 3.1

Vibration damper

(RoBo diaphragm) : 4.2

Test oil inlet

temp. °C Tolerance °C 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : Tolerance bar : + 0.1

Test nozzle holde

: 1 688 901 104 assembly

Opening pressure

251.5 bar : +- 1.5 Tolerance bar

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0 x length mm :

#### REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

# BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : + 0.05Tolerance mm Check

tolerance mm : + 0.10

Rack travel in mm: 10.50 Tolerance mm :  $\leftarrow$  1.50

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240

: -300 Tolerance : **←** 0.30

Check tolerance °NW : +- 0.50

Start of delivery mark

: ← 0.50 Tolerance

Check

: + - 0.75tolerance "NW

Barrel no. 1 :

# BASIC SETTING

700 Rated speed rpm :

•	No. 1
Rack travel in mm: 13.85 Tolerance mm: + 0.05	Del. quantity cm3/1000 strokes : 204.0 Tolerance
Del. quantity +	cm3/1000 strokes : + 1.0 Check tolerance
cm3/1000 strokes : 204.0	cm3/1000s. : +- 4.0 Spreed
Tolerance + cm3/1000 strokes : +- 1.0	Tolerance cm3/1000 strokes : 8.0
Check tolerance cm3/1000s. : +- 4.0	Check tolerance cm3/1000s. : 12.0
Spreed	
Tolerance cm3/1000 strokes : 8.0	CONTROL LEVER control lever
Check tolerance	position degree : 62.0
cm3/1000s. : 12.0 +	tolerance degree : +- 4.0
Rated speed rpm : 350	control lever position degree : 112.0
Rack travel in mm: 5.10 + Tolerance mm: + 0.30 +	tolerance degree : +- 4.0
Del. quantity	RATED SPEED
cm3/1000 strokes : 18.0 + Tolerance +	rack travel mm : 11.70
cm3/1000 strokes : + 3.0 + Check tolerance	Rated speed rpm : 1095 Tolerance 1/min : + 5
cm3/1000s. : + 6.0	
Spreed + Tolerance +	rack travel mm : 4.00 Rated speed rpm : 1175
cm3/1000 strokes : 4.0 +	rack travel mm : 0.85
cm3/1000s. : 8.0	Tolerance mm : + 0.55 Rated speed rpm : 1300
(B) SETTING OF INJECTION PUMP	
WITH GOVERNOR	LOW IDLE
CUIDE SI FEVE DOCUTION	control lever
GUIDE SLEEVE POSITION	position degree : 77.0
Rated speed rpm : 800	tolerance degree : +- 4.0
Rack travel in mm: 0.50 Tolerance mm: + 0.20	control lever position degree : 28.0
	tolerance degree : +- 4.0
governor spring pre-tension click setting x : 6.00	Setting point w/out bumper spring
	Rated speed rpm : 350 rack travel mm : 4.60
FULL LOAD DELIVERY AT FULL LOAD STOP	Testing:
Rated speed rpm : 700 + Aneroid pressure	Rated speed rpm : 350
hPa : -	rack travel mm : 5.10 Tolerance mm : +- 0.10

TORQUE CONTROL	
Rated speed rpm rack travel mm Tolerance mm	: 700 : 13.85 : +- 0.05
Rated speed rpm rack travel mm Tolerance mm	: 1050 : 12.75 : + 0.05
Rated speed rpm rack travel mm Tolerance mm	: 900 : 13.45 : ← 0.20
Rated speed rpm rack travel mm Tolerance mm	: 975 : 13.05 : +- 0.25
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : 1500 : 13.85 : + 0.05
MEASUREMENT	
Pressure hPa Rated speed rpm rack travel mm Tolerance mm	500 10.50 + 0.20
Rated speed rpm	: 500
Pressure hPa rack travel mm Tolerance mm	: 230 : 10.95 : + 0.15
Pressure hPa rack travel mm Tolerance mm	: 310 : 11.35 : + 0.05
FUEL DELIVERY CHA	.DACTEDISTICS
Aneroid pressure	WHO! FUTO! TOO
hPa Rated speed rpm Del. quantity	: - : 1050
cm3/1000 strokes	: 169.0

Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: + 4.0 : + 6.0
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: - : 500 : 114.0 : + 1.0 : + 4.0
BREAKAWAY	
Rack travel in mo Rated speed rpm Tolerance 1/min	n: 11.70 : 1095 : + 5
STARTING FUEL DEL	_IVERY
Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: 100 : 10.50 : + 0.20 : 100.0 : + 20.0 : + 24.0
LOU TOLE	
Rated speed rpm rack travel mm Tolerance mm	: 350 : 5.10 : +- 0.30

d	•	
rack travel mm	:	5.10
Tolerance mm	: +-	0.30
Del. quantity		
cm3/1000 strokes	:	18.0
Tolerance		
cm3/1000 strokes	: +	3.0
Check tolerance		
cm3/1000s.	: +	6.0
Spreed		
Tolerance		
cm3/1000 strokes	•	4.0
Check tolerance	•	
cm3/1000S.	•	8.0
C11137 10000.	•	0.0

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 11.07.95 Edition : ISO 4113 Test oil

Combination No. : 0 402 046 865

Injection pump

Pump designation : PES6P120A320LS3321

: -1

EP type number : 0 412 026 776

Governor

Governer design. : RQ275/950PA1085-1 : 0 421 801 761 Governer no.

Cust. part No. : 645 625

Customer-spec. information : RABA Customer

: SIEHE BEMERKUNG Motor

### TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C 40 Tolerance °C : +- 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5 Tolerance bar : +-0.1

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

208.5 bar Tolerance bar : +- 1.5

Test Lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant. per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : **←** 0.05 Tolerance mm

Check

tolerance mm : +- 0.10

Rack travel in mm: 12.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240

: -300

Tolerance : + 0.30

Check

: +- 0.50 tolerance "NW

Start of delivery mark

Barrel no. 1

BASIC SETTING

Rated speed rpm : 600

Rack travel in mm : 14.60 Tolerance mm : +- 0.05

Del. quantity cm3/1000 strokes : 193.0

Tolerance

cm3/1000 strokes : +- 1.0

J25

Check tolerance cm3/1000s. : + 4.0	guide steeve travel mm : 11.50 Tolerance mm : +- 0.50
Spreed +	
cm3/1000 strokes : 5.0	GUIDE SLEEVE POSITION
Check tolerance cm3/100Qs. : 9.0	Rated speed rpm : 500
<b>5</b> 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Rack travel in mm: 20.00
Rated speed rpm : 275	Tolerance mm : + 0.80
Rack travel in mm: 5.70 + Tolerance mm: + 0.30 +	FULL LOAD DELIVERY AT FULL LOAD STOP
Del. quantity	FOLL LOAD DELIVERY AT FOLL EVAD STOP
cm3/1000 strokes : 24.0	Rated speed rpm : 600 Aneroid pressure
cm3/1000 strokes : + 3.0	hPa : 900
Check tolerance +	Del. quantity
cm3/1000s. : +- 6.0 +	cm3/1000 strokes : 193.0 Tolerance
Spreed +	cm3/1000 strokes : +- 1.0
cm3/1000 strokes : 8.0 +	Check tolerance
Check tolerance	cm3/1000s. : +- 4.0
cm3/1000s. : 12.0 +	Spreed Tolerance
I	cm3/1000 strokes : 5.0
(B) SETTING OF INJECTION PUMP	Check tolerance
WITH GOVERNOR	cm3/1000s. : 9.0
<u> </u>	
GUIDE SLEEVE TRAVEL	
+	CONTROL LEVER
Rated speed rpm : 275 + guide sleeve +	control lever
travel mm : 2.85	position degree : 37.0
Tolerance mm : + 0.10 +	tolerance degree : +- 4.0
Rated speed rpm : 1003 +	control lever
guide sleeve +	
travel mm : 6.55 +	position degree : 99.0
	position degree : 99.0 tolerance degree : +- 4.0
Tolerance mm : + 0.10	tolerance degree : +- 4.0
	tolerance degree : +- 4.0 RATED SPEED
Tolerance mm : + 0.10 + Rated speed rpm : 950 + guide sleeve	tolerance degree : +- 4.0  RATED SPEED  rack travel mm : 13.60
Tolerance mm : + 0.10 + Rated speed rpm : 950 + guide sleeve travel mm : 6.00 +	tolerance degree : +- 4.0  RATED SPEED  rack travel mm : 13.60 Rated speed rpm : -995
Tolerance mm : + 0.10 + Rated speed rpm : 950 + guide sleeve	tolerance degree : +- 4.0  RATED SPEED  rack travel mm : 13.60
Tolerance mm : + 0.10 + Rated speed rpm : 950 + guide sleeve travel mm : 6.00 +	tolerance degree : +- 4.0  RATED SPEED  rack travel mm : 13.60 Rated speed rpm : -995 Tolerance 1/min : +- 5  rack travel mm : 4.00
Tolerance mm : + 0.10  Rated speed rpm : 950 guide sleeve travel mm : 6.00 Tolerance mm : + 0.10  Rated speed rpm : 369 guide sleeve	tolerance degree : +- 4.0  RATED SPEED  rack travel mm : 13.60 Rated speed rpm : -995 Tolerance 1/min : +- 5  rack travel mm : 4.00 Rated speed rpm : 1090
Tolerance mm : + 0.10  Rated speed rpm : 950 guide sleeve travel mm : 6.00 Tolerance mm : + 0.10  Rated speed rpm : 369 guide sleeve travel mm : 5.24	tolerance degree : +- 4.0  RATED SPEED  rack travel mm : 13.60 Rated speed rpm : -995 Tolerance 1/min : +- 5  rack travel mm : 4.00
Tolerance mm : + 0.10  Rated speed rpm : 950 guide sleeve travel mm : 6.00 Tolerance mm : + 0.10  Rated speed rpm : 369 guide sleeve	tolerance degree : +- 4.0  RATED SPEED  rack travel mm : 13.60 Rated speed rpm : -995 Tolerance 1/min : +- 5  rack travel mm : 4.00 Rated speed rpm : 1090 Tolerance 1/min : +- 15
Tolerance mm : + 0.10  Rated speed rpm : 950 guide sleeve travel mm : 6.00 Tolerance mm : + 0.10  Rated speed rpm : 369 guide sleeve travel mm : 5.24 Tolerance mm : + 0.10  Rated speed rpm : 440	tolerance degree : +- 4.0  RATED SPEED  rack travel mm : 13.60 Rated speed rpm : -995 Tolerance 1/min : +- 5  rack travel mm : 4.00 Rated speed rpm : 1090 Tolerance 1/min : +- 15  rack travel mm : 0.50 Tolerance mm : +- 0.50
Tolerance mm : + 0.10  Rated speed rpm : 950 guide sleeve travel mm : 6.00 Tolerance mm : + 0.10  Rated speed rpm : 369 guide sleeve travel mm : 5.24 Tolerance mm : + 0.10  Rated speed rpm : 440 guide sleeve	tolerance degree : +- 4.0  RATED SPEED  rack travel mm : 13.60 Rated speed rpm : -995 Tolerance 1/min : +- 5  rack travel mm : 4.00 Rated speed rpm : 1090 Tolerance 1/min : +- 15  rack travel mm : 0.50
Tolerance mm : + 0.10  Rated speed rpm : 950 guide sleeve travel mm : 6.00 Tolerance mm : + 0.10  Rated speed rpm : 369 guide sleeve travel mm : 5.24 Tolerance mm : + 0.10  Rated speed rpm : 440 guide sleeve travel mm : 6.00	tolerance degree : +- 4.0  RATED SPEED  rack travel mm : 13.60 Rated speed rpm : -995 Tolerance 1/min : +- 5  rack travel mm : 4.00 Rated speed rpm : 1090 Tolerance 1/min : +- 15  rack travel mm : 0.50 Tolerance mm : +- 0.50
Tolerance mm : + 0.10  Rated speed rpm : 950 guide sleeve travel mm : 6.00 Tolerance mm : + 0.10  Rated speed rpm : 369 guide sleeve travel mm : 5.24 Tolerance mm : + 0.10  Rated speed rpm : 440 guide sleeve	tolerance degree : +- 4.0  RATED SPEED  rack travel mm : 13.60 Rated speed rpm : -995 Tolerance 1/min : +- 5  rack travel mm : 4.00 Rated speed rpm : 1090 Tolerance 1/min : +- 15  rack travel mm : 0.50 Tolerance mm : +- 0.50

control lever position degree tolerance degree	: 75.0 : + 4.0	rack travel mm : 13.80 Tolerance mm : + 0.05
control lever position degree tolerance degree	: 13.0 : +- 4.0	FUEL DELIVERY CHARACTERISTICS
Testing:	075	+ Aneroid pressure + hPa : 900 - Rated speed rpm : 950
Rated speed rpm rack travel mm Tolerance mm	: 275 : 5.70 : + 0.10	+ Del. quantity - cm3/1000 strokes : 185.0 - Tolerance
rack travel mm Rated speed rpm	: 355	+ cm3/1000 strokes : +- 3.0 + Check tolerance + cm3/1000s. : +- 6.0
Tolerance 1/min Rated speed rpm		Aneroid pressure  hPa : -  Rated speed rpm : 500
CRT mm min.	: > 8.30	Del. quantity cm3/1000 strokes : 114.0
TORQUE CONTROL		+ Tolerance + cm3/1000 strokes : + 2.0 + Check tolerance
Rated speed rpm rack travel mm Tolerance mm	: 14.60	cm3/1000s. : + 4.0
Rated speed rpm rack travel mm Tolerance mm	: 950 : 14.60	Rack travel in mm: 13.60 Rated speed rpm: 995 Tolerance 1/min: + 5
ANEROID/ALTITUDE COMPENSATOR TEST		Toterance min . +- 3
SETTING  Rated speed rpm Pressure hPa rack travel mm Tolerance mm  MEASUREMENT	: 500 : 900 : 14.60 : ← 0.05	STARTING FUEL DELIVERY  Rated speed rpm : 100 Del. quantity cm3/1000 strokes : 154.0 Tolerance cm3/1000 strokes : +- 20.0 Check tolerance cm3/1000s. : +- 24.0
Pressure hPa Rated speed rpm rack travel mm Tolerance mm	: - : 500 : 12.40 : +- 0.20	LOW IDLE
Rated speed rpm	: 500	Rated speed rpm : 275 rack travel mm : 5.70
Pressure hPa rack travel mm Tolerance mm	: 240 : 13.10 : +- 0.15	Tolerance mm : + 0.30 Del. quantity cm3/1000 strokes : 24.0
Pressure hPa	: 350	+ Tolerance + cm3/1000 strokes : +- 3.0

Check tolerance cm3/1000s. : +- 6.0 Spreed Tolerance cm3/1000 strokes : 8.0

Check tolerance cm3/1000s. 12.0

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 29.01.96 Test oil : ISO 4113

Combination No. : 0 402 640 817

Injection pump

Pump designation : PE12P12OA52OLS7826 EP type number : 0 412 620 817

Governor

Governer design. : RQV350...1150PA870

: -4

Governer no. : 0 421 813 717

Cust. part No. : 0180745402

Customer-spec. information
Customer : MB-NFZ
Motor : OM 444 LA
Power KW : 736.0

# TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 2 417 413 077

Inlet press. bar : 1.5

Overflow quantity

min. l/h : 160 Tolerance l/h : + 10.0

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : + 1.5 Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter: 3.0

x length mm : 1000

#### **REMARKS**

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

# BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.45 Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 20.00 Tolerance mm : + 1.00

Firing order : 12-1-5-9-8

: - 3- 4- 11- 10 : - 2- 6- 7

Phasing : 0-45-60-105-120

: -165-180-225-240 : -285-300-345

Tolerance : +- 0.30

Check

tolerance  $^{\circ}NW$  : + 0.50

Start of delivery mark

Barrel no. : 12

BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm : 15.30 Tolerance mm : +- 0.05

Del. quantity cm3/1000 strokes : 306.0

K01

	Tolerance mm : + 0.25
Tolerance - cm3/1000 strokes : +- 1.0 -	GUIDE SLEEVE POSITION
Check tolerance cm3/1000s. : +- 4.0	Rated speed rpm : 1275
Spreed Tolerance cm3/1000 strokes : 6.0	Rack travel in mm : 16.50 Tolerance mm : + 1.30
Check tolerance cm3/1000s. : 10.0	FULL LOAD DELIVERY AT FULL LOAD STOP
Rated speed rpm : 350	Rated speed rpm : 1150 Aneroid pressure hPa : 1300
Rack travel in mm: 5.60 Tolerance mm: + 0.30	hPa : 1300 - Del. quantity - cm3/1000 strokes : 306.0
Del. quantity cm3/1000 strokes : 15.0	Tolerance : + 1.0
Tolerance - cm3/1000 strokes : +- 3.0 - Check tolerance	Check tolerance cm3/1000S. : +- 4.0 Spreed
cm3/1000s. : +- 6.0 Spreed	Tolerance cm3/1000 strokes : 6.0
Tolerance - cm3/1000 strokes : 8.0 - Check tolerance -	- Check tolerance - cm3/1000S. : 10.0
cm3/1000s. : 12.0 -	
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	CONTROL LEVER  control lever  position degree : 117.0  tolerance degree : +- 4.0
GUIDE SLEEVE TRAVEL	RATED SPEED
Rated speed rpm : 350 guide sleeve - travel mm : 1.55 Tolerance mm : + 0.20	rack travel mm : 14.30 Rated speed rpm : 1195 Tolerance 1/min : +- 5
Rated speed rpm : 1206 - guide sleeve - travel mm : 8.15 -	rack travel mm : 4.00 Rated speed rpm : 1285 Tolerance 1/min : +- 15
Tolerance mm : + 0.15  Rated speed rpm : 600	rack travel mm : 0.50 Tolerance mm : + 0.50
guide sleeve travel mm : 3.55 Tolerance mm : + 0.25	- Rated speed rpm : 1350 - -
Rated speed rpm : 960 guide sleeve	- LOW IDLE
travel mm : 5.55 Tolerance mm : + 0.25	control lever position degree : 66.0
Rated speed rpm : 1291 guide sleeve	tolerance degree : +- 4.0
travel mm : 10.05 +	- Testing:

		1 61. 4
Dated anacd are	. 750	+ Check
Rated speed rpm rack travel mm	: 550 : 5.60	+ speed 1/min : < 330
Tolerance mm		<u> </u>
TO CET OF ICE (IN)	0.10	FUEL DELIVERY CHARACTERISTICS
Rated speed rpm	: 250	- OCC PETAGNI CHUNCHENTOITES
		Aneroid pressure
CRT mm min.	: > 7.30	+ hPa : 1300
	170	+ Rated speed rpm : 750
Rated speed rpm	: 475	Del. quantity
		+ cm3/1000 strokes : 315.0
TORQUE CONTROL		
TOWARD CONTROL		+ Check tolerance
Rated speed rpm	: 1150	- cm3/1000s. : + 8.0
rack travel mm		Spreed
Tolerance mm	: +- 0.05	+ Tolerance
		+ cm3/1000 strokes : 10.0
Rated speed rpm	: 750	+ Check tolerance
rack travel mm	: 15.40	+ cm3/1000s. : 15.0
Tolerance mm		+
		+ Aneroid pressure
		—— + hPa : 1300
ANEROID/ALTITUDE		Rated speed rpm : 1150
COMPENSATOR TEST		+ Del. quantity
		+ cm3/1000 strokes : 234.5
CETTING		+ Tolerance
SETTING		+ cm3/1000 strokes : + 1.5 + Check tolerance
Rated speed rpm	: 500	+ cm3/1000s. : + 4.5
Pressure hPa		+ Spreed
rack travel mm		Tolerance
Tolerance mm		- cm3/1000 strokes : 10.0
- चक्राकार्थिक भाग		- Check tolerance
MEASUREMENT		+ cm3/1000s. : 15.0
		+
Pressure hPa	: -	+ Aneroid pressure
Rated speed rpm		hPa : -
rack travel mm	: 8.45	+ Rated speed rpm : 500
Tolerance mm	: + 0.15	+ Del. quantity
<b>a</b> 1 - 1 - 1 - 1	500	cm3/1000 strokes : 124.0
Rated speed rpm	: 500	Tolerance
Dunney LD-	. 700	+ cm3/1000 strokes : + 1.0
Pressure hPa	: 300 : 10.20	+ Check tolerance + cm3/1000s. : +- 4.0
rack travel mm Tolerance mm	: +- 0.05	+ Cm3/10005. : +- 4.0 + Spreed
roterance mm	0.03	+ Tolerance
Pressure hPa	: 700	+ cm3/1000 strokes : 10.0
rack travel mm	: 13.80	Check tolerance
Tolerance mm	: +- 0.15	+ cm3/1000s. : 15.0
COSOL MITTO MAN	V · Walu	- 10000
START CUT-OUT		BREAKAWAY
		+
Rated speed rpm		<b>†</b>
Rated speed rpm	: < 310	Rack travel in mm: 14.30
Oliveral.		+ Rated speed rpm : 1195
Check	. \ 100	† Tolerance 1/min : +- 5
speed 1/min	<b>:</b> > 180	†

## STARTING FUEL DELIVERY

Rated speed rpm : 100

Del. quantity

cm3/1000 strokes : 331.0

Tolerance

cm3/1000 strokes : +- 10.0

Check tolerance

cm3/1000s. : + 14.0

# LOW IDLE

350 Rated speed rpm rack travel mm 5.60 0.30 Tolerance mm Del. quantity 15.0 cm3/1000 strokes : Tolerance cm3/1000 strokes : +-3.0 Check tolerance cm3/1000s. 6.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. 12.0

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 22,08,95 Test oil : ISO 4113

Combination No. : 0 402 946 017

# Injection pump

Pump designation : PE6P120A720RS8039 EP type number : 0 412 926 026

Governor

Governer design. : RQV250...950PA1243 : 0 421 814 162 Governer no.

: 1374808 Cust. part No.

Customer-spec, information : SCANIA Customer : DSC 11.79 Motor

# TEST BENCH REQUIREMENTS

Inlet line : EHAB

Test oil inlet

temp. °C Tolerance °C 2.0

Overflow valve : 2 417 413 082

Inlet press. bar : Tolerance bar : +-

Test nozzle holde

: 1 688 901 104 assembly

Opening pressure

251.5 Tolerance bar

Test lines : 1 680 750 008

Outside diameter : 6.0 x inside diameter: 2.0 600 x length mm

#### REMARKS

(A) INJECTION PUMP SETTING VALUES Set equal delivery quant.

per values _____

### BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm 4.15 : + 0.05Tolerance mm Check

tolerance mm : + 0.10

Rack travel in mm: 20.50 Tolerance mm :  $\leftarrow$  0.50

: 1-5-3-6-2-Firing order

: 0-60-120-180-240 Phasing

: -300 Tolerance : +- 0.30

Check

tolerance °NW : + - 0.50

Start of delivery blocking

Barrel no.

#### BASIC SETTING

700 Rated speed rpm :

Rack travel in mm: 11.90 : + 0.05 Tolerance mm

Del. quantity cm3/1000 strokes : 298.0

Tolerance

cm3/1000 strokes : +-1.0

Check tolerance cm3/1000s. : +-4.0

Spreed Tolerance cm3/1000 strokes : 8.0	Rack travel in mm: 10.90 Tolerance mm: + 1.30
Check tolerance cm3/1000s. : 12.0	FULL LOAD DELIVERY AT FULL LOAD STOP
Rated speed rpm : 250	Rated speed rpm : 700 Aneroid pressure
Rack travel in mm : 5.40 Tolerance mm : + 0.30	hPa : 1500 Del. quantity cm3/1000 strokes : 298.0
Del. quantity cm3/1000 strokes : 21.0 Tolerance	Tolerance : + 1.0
cm3/1000 strokes : +- 3.0 Check tolerance	+ Check tolerance + cm3/1000s. : + 4.0 + Spreed
cm3/1000s. : +- 6.0 Spreed	Tolerance cm3/1000 strokes : 8.0
Tolerance cm3/1000 strokes : 4.0 Check tolerance	Check tolerance cm3/1000s. : 12.0
cm3/1000s. : 8.0	‡
(B) SETTING OF INJECTION PUMP	CONTROL LEVER
WITH GOVERNOR	control lever position degree : 51.0 tolerance degree : +- 4.0
GUIDE SLEEVE TRAVEL	+
Rated speed rpm : 250 guide sleeve travel mm : 1.02	control lever position degree : 115.0 tolerance degree : + 4.0
Tolerance mm : + 0.20	RATED SPEED
Rated speed rpm : 1008 guide sleeve travel mm : 8.27	rack travel mm : 10.90 Rated speed rpm : 995 Tolerance 1/min : + 5
Tolerance mm : + 0.15  Rated speed rpm : 733	rack travel mm : 4.00 Rated speed rpm : 1125
guide sleeve travel mm : 6.04	Tolerance 1 in : + 15
Tolerance mm : + 0.25	rack travel mm : 0.50 Tolerance mm : + 0.50
Rated speed rpm : 470 guide sleeve	Rated speed rpm : 1200
travel mm : 3.78 Tolerance mm : + 0.25	LOW IDLE
Rated speed rpm : 1290 guide sleeve	- COW IDEE
travel mm : 11.50 Tolerance mm : +- 0.50	control lever position degree : 81.0 tolerance degree : +- 4.0
GUIDE SLEEVE POSITION	control lever position degree : 17.0
Rated speed rpm : 1125	tolerance degree : + 4.0

K06

Testing:	
Rated speed rpm rack travel mm Tolerance mm	: 250 : 5.40 : + 0.10
Rated speed rpm	: 150
CRT mm min.	: > 8.10
Rated speed rpm	: 300
TORQUE CONTROL	
Rated speed rpm rack travel mm Tolerance mm	: 700 : 11.90 : ← 0.05
Rated speed rpm rack travel mm Tolerance mm	: 950 : 11.90 : +- 0.05
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : 1500 : 11.90 : + 0.05
MEASUREMENT	
Pressure hPa Rated speed rpm rack travel mm Tolerance mm	: - : 500 : 9.20 : + 0.20
Rated speed rpm	: 500
d . about . b	
Pressure hPa rack travel mm	: 350 : 10.30 : + 0.15
Pressure hPa rack travel mm Tolerance mm Pressure hPa rack travel mm Tolerance mm	: 10.30
Pressure hPa rack travel mm Tolerance mm Pressure hPa rack travel mm	: 10.30 : + 0.15 : 600 : 11.40

Check speed 1/min Check speed 1/min	: > 80 : < 190
FUEL DELIVERY CHA	RACTERISTICS
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: 1500 : 950 : 282.0 : ← 4.0 : ← 6.0
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: - : 500 : 197.0 : + 1.0 : + 4.0
BREAKAWAY	
Rack travel in mm Rated speed rpm Tolerance 1/min	: 10.90 : 995 : +- 5
STARTING FUEL DEL	IVERY
Rated speed rpm rack travel mm Tolerance mm	: 100 : 20.50 : +- 0.50
LOW IDLE	
Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed	: 250 : 5.40 : + 0.30 : 21.0 : + 3.0 : ← 6.0

4.0

Tolerance cm3/1000 strokes : Check tolerance cm3/1000s. : 8.0

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 29.01.96 Edition Test oil : ISO 4113

Combination No. : 0 403 446 259

Injection pump

Pump designation : PES6MW100/720RS1131

: -1

: 0 413 406 165 EP type number

Governor

Governer design. : RQV300...1300MW68-2

: 0 420 083 224 Governer no.

Cust. part No. :

Customer-spec. information Customer : MB-NFZ Motor : 0M366LA Power KW : 177.0

# TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C Tolerance °C

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

208.5 bar : +- 1.5 Tolerance bar

Test Lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: 3.0 600 x length mm :

#### REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

# BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : + 1.0

Prestroke mm 3.65 : + 0.05Tolerance mm Check

: +- 0.10tolerance mm

Rack travel in mm: 10.50 Tolerance mn: +- 1.50

: 1-5-3-6-2-Firing order

: 0-60-120-180-240 Phasing

: -300

Tolerance : + 0.50Check

: +- 0.75 tolerance °NW

### BASIC SETTING

Rated speed rpm : 1300

Rack travel in mm : 14.45 Tolerance mm :  $\leftarrow$  0.05

Del. quantity

cm3/1000 strokes : 112.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance

: +cm3/1000s. 3.0

Spreed

Tolerance

cm3/1000 strokes : 3.5

K09

	+ Tolerance mm : +- 0.25
Check tolerance	+
cm3/1000s. : 6.0	+ Rated speed rpm : 1620 + guide sleeve
Rated speed rpm : 300	travel mm : 11.50 Tolerance mm : +- 0.50
Rack travel in mm: 6.50	Total and and and and and and and and and and
Tolerance mm : + 0.20 Del. quantity	GUIDE SLEEVE POSITION
cm3/1000 strokes : 12.0 Tolerance	Rated speed rpm : 1450
cm3/1000 strokes : ← 2.0 Check tolerance	Rack travel in mm: 10.00
cm3/1000s. : +- 4.5	Tolerance mm : +- 2.70
Spreed Tolerance	Ţ <u> </u>
cm3/1000 strokes : 3.5 Check tolerance	+ FULL LOAD DELIVERY AT FULL LOAD STOP
cm3/1000s. : 5.5	Rated speed rpm : 1300 Aneroid pressure
(D) CETTAIC OF THIECTION DUMP	+ hPa : 1000
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	Del. quantity cm3/1000 strokes : 112.0
	Tolerance + cm3/1000 strokes : +- 1.0
GUIDE SLEEVE TRAVEL	+ Check tolerance + cm3/1000s. :+- 3.0
Rated speed rpm : 300 guide sleeve	Spreed Tolerance
travel mm : 0.92	+ cm3/1000 strokes : 3.5
Tolerance mm : +- 0.25	Check tolerance
Rated speed rpm : 1355	†
guide steeve travet mm : 8.60	
Tolerance mm : + 0.25	CONTROL LEVER
Rated speed rpm : 2240	control lever
guide steeve travet mm : 24.82	position degree : 114.0 tolerance degree : + 4.0
travel mm : 24.82 Tolerance mm : +- 0.25	+
Rated speed rpm : 721	+ RATED SPEED
guide sleeve	rack travel mm : 13.40
travel mm : 5.69 Tolerance mm : + 0.25	+ Rated speed rpm : 1345 + Tolerance 1/min : +- 5
	+
Rated speed rpm : 771 guide sleeve	+ rack travel mm : 4.00 + Rated speed rpm : 1495
travel mm : 6.18 Tolerance mm : + 0.25	+ Tolerance 1/min : +- 15
Total ance than	rack travel mm : 0.50
Rated speed rpm : 1040 guide sleeve	Tolerance mm : + 0.50 Rated speed rpm : 1600
travel mm : 7.10	1 1000 0000 1011 1 1000
Tolerance mm : + 0.25	<u> </u>
Rated speed rpm : 1485 guide sleeve	LOW IDLE
travel mm : 10.00	+

K10

		1
control lever position degree tolerance degree	: 77.0 : +- 4.0	Check
Testing:		+
Rated speed rpm rack travel mm Tolerance mm Rated speed rpm	: 6.50 : + 0.10	FUEL DELIVERY CHARACTERISTICS  Aneroid pressure  hPa : 1000  Rated speed rpm : 750
CRT mm min.	: > 8.00	+ Del. quantity - cm3/1000 strokes : 108.0 - Tolerance
TORQUE CONTROL		
Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm	: 14.45 : + 0.05 : 750 : 14.45	- cm3/1000s. : +- 4.0 - Spreed - Tolerance - cm3/1000 strokes : 5.0 - Check tolerance - cm3/1000s. : 7.0 - Aneroid pressure
ANEROID/ALTITUDE COMPENSATOR TEST		hPa : - Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 42.0 Tolerance cm3/1000 strokes : +- 1.0
SETTING Rated speed rpm	: 500	Check tolerance cm3/1000s. : +- 3.0
Pressure hPa rack travel mm Tolerance mm	: 1000	BREAKAWAY
MEASUREMENT  Pressure hPa Rated speed rpm rack travel mm Tolerance mm	: - : 500 : 11.00 : + 0.10	Rack travel in mm: 13.40 Rated speed rpm: 1345 Tolerance 1/min: + 5
Rated speed rpm	: 500	STARTING FUEL DELIVERY
Pressure hPa rack travel mm Tolerance mm	: 400 : 13.45 : +- 0.10	Rated speed rpm : 100  Del. quantity  cm3/1000 strokes : 105.0  Tolerance  cm3/1000 strokes : +- 5.0
Pressure hPa rack travel mm Tolerance mm	: 200 : 11.60 : +- 0.10	- cm3/1000 strokes : +- 3.0 - Check tolerance - cm3/1000s. : +- 8.0
START CUT-OUT		LOW IDLE
Rated speed rpm Rated speed rpm	: > 100 : < 220	Rated speed rpm : 300

rack travel mm	:	6.50
Tolerance mm	: +-	0.20
Del. quantity cm3/1000 strokes		12 A
Tolerance	:	12.0
cm3/1000 strokes	; +	2.0
Check tolerance		
cm3/1000s.	: +	4.5
Spreed		
Tolerance		
cm3/1000 strokes		3.5
Check tolerance		
cm3/1000S.	:	5.5

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 30.01.96 Test oil : ISO 4113

Combination No. : 0 403 446 336

Injection pump

Pump designation : PES6MW100/720RS1131

: -1

EP type number : 0 413 406 165

Governor

Governer design. : RQV300...1300MW156

Governer no. : 0 420 083 342

Cust. part No. : 0270740602

Customer—spec. information Customer : MB-NFZ Motor : OM366LA Power KW : 170.0

#### TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 600

**REMARKS** 

(A) INJECTION PUMP SETTING VALUES Set equal delivery quant.

per values _____

# BEGINNING OF DELIVERY

Test pressure bar : 31.0 Tolerance bar : + 1.0

Prestroke mm : 3.65
Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance :  $\leftarrow$  0.50

Check

tolerance °NW : + 0.75

BASIC SETTING

Rated speed rpm : 1300

Rack travel in mm : 14.45
Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 112.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s. : +- 3.0

Spreed

Tolerance + cm3/1000 strokes : 3.5 +	
+	GUIDE SLEEVE POSITION
Check tolerance cm3/1000s. : 6.0	Rated speed rpm : 1450
Rated speed rpm : 300	Rack travel in mm: 11.00 Tolerance mm: + 2.70
Rack travel in mm: 7.20 + Tolerance mm: + 0.20 + Del. quantity	FULL LOAD DELIVERY AT FULL LOAD STOP
cm3/1000 strokes : 12.0 +	
Tolerance + cm3/1000 strokes : + 2.0	Rated speed rpm : 1300 Aneroid pressure
Check tolerance cm3/1000s. : + 4.5	hPa : 1000 Del. quantity
Spreed Tolerance	cm3/1000 strokes : 112.0 Tolerance
cm3/1000 strokes : 3.5 Check tolerance	cm3/1000 strokes : + 1.0 Check tolerance
cm3/1000s. : 5.5	cm3/1000s. : +- 3.0 Spreed
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	Tolerance cm3/1000 strokes : 3.5 Check tolerance
	cm3/1000s. : 6.0
GUIDE SLEEVE TRAVEL	
Rated speed rpm : 300 guide sleeve	CONTROL LEVER
travel mm : 1.69 +	control lever
Tolerance mm : + 0.20 +	position degree : 123.0 tolerance degree : +- 4.0
Rated speed rpm : 1355 guide sleeve	RATED SPEED
travel mm : 8.41	ANTED STEED
Tolerance mm : + 0.15	rack travel mm : 13.40
+	Rated speed rpm : 1345
Rated speed rpm : 1070 + guide sleeve +	Tolerance 1/min : + 5
travel mm : 6.53 +	rack travel mm : 4.00
Tolerance mm : + 0.25	Rated speed rpm : 1500 Tolerance 1/min : +- 15
Rated speed rpm : 650 + guide sleeve +	rack travel mm : 0.50
travel mm : 4.94	Tolerance mm : + 0.50
Tolerance mm : + 0.25	Rated speed rpm : 1600
Rated speed rpm : 1502 guide sleeve	
travel mm : 10.00 +	LOW IDLE
Tolerance mm : +- 0.25	
Rated speed rpm : 1630 guide sleeve	control lever position degree : 73.0
travel mm : 11.50  Tolerance mm : + 0.50	tolerance degree : +- 4.0
	Testing:
•	

Rated speed rpm	: 300	+
rack travel mm Tolerance mm	: 7.20 : +- 0.10	FUEL DELIVERY CHARACTERISTICS
Rated speed rpm	: 200	Aneroid pressure hPa : 1000
CRT mm min.	: > 8.50	Rated speed rpm : 750  Del. quantity
TORQUE CONTROL		cm3/1000 strokes : 107.0 Tolerance
Rated speed rpm	: 1300	+ cm3/1000 strokes : + 1.5 + Check tolerance
rack travel mm Tolerance mm	: 14.45	cm3/1000s. : +- 4.0 + Spreed
Rated speed rpm	: 750	Tolerance cm3/1000 strokes : 5.0
Rated speed rpm rack travel mm Tolerance mm	: + 0.10	theck tolerance cm3/1000s. : 7.0
ANEROID/ALTITUDE		Aneroid pressure hPa : -
COMPENSATOR TEST		Rated speed rpm : 500  Del. quantity
		+ cm5/1000 strokes : 41.0
SETTING		+ Tolerance + cm3/1000 strokes : +- 1.0
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 1000 : 14.45	Check tolerance cm3/1000s. : + 3.0
MEASUREMENT	. + 0.05	BREAKAWAY
Pressure hPa Rated speed rpm rack travel mm Tolerance mm	: 11.00	Rack travel in mm: 13.40 Rated speed rpm: 1345 Tolerance 1/min: + 5
Rated speed rpm	: 500	STARTING FUEL DELIVERY
Pressure hPa rack travel mm Tolerance mm	: 400 : 13.40 : +- 0.10	Rated speed rpm : 100 Del. quantity
Pressure hPa	: 200	cm3/1000 strokes : 105.0 Tolerance
rack travel mm Tolerance mm	: 11.60 : + 0.10	cm3/1000 strokes : + 5.0 Check tolerance cm3/1000s. : + 8.0
START CUT-OUT		‡
Rated speed rpm Rated speed rpm	: > 100 : < 180	LOW IDLE
Check speed 1/min Check speed 1/min	: > 80 : < 200	Rated speed rpm : 300 rack travel mm : 7.20 Tolerance mm : + 0.20 Del. quantity
speed thinti	. \ 200	cm3/1000 strokes : 12.0

Tolerance cm3/1000 strokes	: +-	2.0
Check tolerance cm3/1000s.	: +	4.5
Spreed Tolerance		
cm3/1000 strokes Check tolerance	:	3.5
cm3/1000s.	:	5.5

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 29.01.96 : ISO 4113 Test oil

Combination No. : 9 400 030 737

Injection pump

Pump designation : PES6A95D32D/3RS2881 EP type number : 9 410 037 215

Governor

Governer design. : RSV475...1100A0C850R

Governer no. : 9 420 034 716

Cust. part No. : 3929409

Customer-spec. information Customer : CDC Motor : 6BT Power KW : 90.0

#### TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C Tolerance °C : +--2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 2.0

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

: 208.5 har : + 1.5 Tolerance bar

Test Lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

#### REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

# BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : + 1.0

Prestroke mm : 2.85
Tolerance mm : + 0.05 Check

tolerance mm : + 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

: 1-5-3-6-2-Firing order : 4

Phasing : 0-60-120-180-240

: -300

Tolerance : **←** 0.50

Check

: + 0.75 tolerance *NW

Start of delivery blocking

*NW after s.o.d. : 7.50 : ← 0.50 Tolerance

Check

tolerance *NW : + 0.75

Barrel no. : 1

### BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 10.25Tolerance mm : + 0.05

Del. quantity + cm3/1000 strokes : 81.5 +	Check tolerance cm3/1000s. : 6.5
Tolerance cm3/1000 strokes : + 1.0	
	CONTROL LEVER
Check tolerance : + 3.0 +	control lever position degree : 97.0
Spreed + Tolerance +	tolerance degree : +- 4.0
cm3/1000 strokes : 4.0	RATED SPEED
Check tolerance cm3/1000s. : 6.5	rack travel mm : 9.20 Rated speed rpm : 1165 Tolerance 1/min : +- 5
Del. quantity cm3/1000 strokes : 18.5	rack travel mm : 4.50
Tolerance	Rated speed rpm : 1215
cm3/1000 strokes : + 2.0 + Check tolerance +	Tolerance 1/min : ← 5
cm3/1000s. : + 4.5 +	rack travel mm : 0.85 Tolerance mm : + 0.55
Tolerance + cm3/1000 strokes : 6.0	Rated speed rpm : 1300
Check tolerance +	
cm3/1000s. : 8.0	LOW IDLE
(B) SETTING OF INJECTION PUMP	
WITH GOVERNOR	control lever  position degree : 85.5
<del>-</del>	position degree : 85.5 tolerance degree : +- 4.0
GUIDE SLEEVE POSITION	Setting point w/out bumper spring
Rated speed rpm : 800	Rated speed rpm : 475
Rack travel in mm: 0.50	rack travel mm : 4.60
Tolerance mm : + 0.20	Testing:
governor spring	Rated speed rpm : 475 rack travel mm : 5.10
pre-tension click setting x : 5.00	rack travel mm : 5.10 Tolerance mm : + 0.10
	Rated speed rpm : 100
FULL LOAD DELIVERY AT FULL LOAD STOP	CRT mm min. : > 19.00
Rated speed rpm : 1100 +	
hPa : 900 +	TORQUE CONTROL
Del. quantity cm3/1000 strokes : 81.5	Rated speed rpm : 1100
Tolerance + cm3/1000 strokes : + 1.0 +	rack travel mm : 10.25 Tolerance mm : +- 0.05
Check tolerance	
cm3/1000s. : + 3.0 + Spreed	rack travel mm : 10.90
Tolerance cm3/1000 strokes : 4.0	Tolerance mm : +- 0.10
THE TOTAL OF THE TENT OF THE T	

## ANEROID/ALTITUDE COMPENSATOR TEST

# SETTING

Rated speed rpm 800 Pressure hPa 900

### **MEASUREMENT**

Pressure hPa 008 Rated speed rpm rack travel mm 8.70 Tolerance mm : + 0.20

Rated speed rpm 800

Pressure hPa 450 10.50 rack travel mm Tolerance mm : **←** 0.20

Pressure hPa 275 9.50 rack travel mm Tolerance mm : + 0.20

# FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

900 hPa 800 Rated speed rpm

Del. quantity

cm3/1000 strokes 93.0

Tolerance

cm3/1000 strokes 2.0 Check tolerance

cm3/1000s.

4.0

Aneroid pressure

hPa

Rated speed rpm 008

Del. quantity

cm3/1000 strokes : 65.5

Tolerance

cm3/1000 strokes : +-1.0

Check tolerance

cm3/1000s. 3.0

#### BREAKAWAY

9.20 Rack travel in mm: Rated speed rpm : +--Tolerance 1/min

#### STARTING FUEL DELIVERY

Rated speed rpm 100 rack travel mm 20.50 Tolerance mm : + 0.50Del. quantity cm3/1000 strokes : 120.5 Tolerance cm3/1000 strokes : +- 10.0 Check tolerance cm3/1000s. : +- 15.0

## LOW IDLE

Del. quantity cm3/1000 strokes : 18.5 Tolerance cm3/1000 strokes : +-2.0 Check tolerance cm3/1000s. 4.5 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance 8.0 cm3/1000s.

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 29.01.96 Test oil : ISO 4113

Combination No. : 9 400 030 738

Injection pump

Pump designation : PES6A95D320/3RS2881

EP type number : 9 410 037 215

Governor

Governer design. : RSV475...1100A0C851R

Governer no. : 9 420 034 717

Cust. part No. : 3929408

Customer-spec. information Customer : CDC : 6BT Motor Power KW : 98.0

### TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C Tolerance °C : +- 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 2.0

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

: 208.5 bar : +- 1.5 Tolerance bar

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

# BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : + 1.0

Prestroke mm : 2.85 Tolerance mm : +- 0.05 Check

tolerance mm  $: \leftarrow 0.10$ 

Rack travel in mm: 10.50 Tolerance mm : +- 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

: -300 Tolerance : + 0.50

Check

tolerance °NW : +- 0.75

Start of delivery blocking

*NW after s.o.d. : 7.50 Tolerance : + 0.50

Check

tolerance °NW : +- 0.75

Barrel no. : 1

#### BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 11.05 Tolerance mm : +- 0.05

Del. quantity cm3/1000 strokes : 92.5	Check tolerance cm3/1000s. : 6.5
cm3/1000 strokes : + 1.0	CONTROL LEVER
Check tolerance cm3/1000s. : + 3.0	control lever position degree : 96.0
Spreed Tolerance cm3/1000 strokes : 4.0	tolerance degree : +- 4.0  RATED SPEED
Check tolerance cm3/1000s. : 6.5	rack travel mm : 10.00 Rated speed rpm : 1165 Tolerance 1/min : +- 5
Del. quantity cm3/1000 strokes : 18.5 Tolerance cm3/1000 strokes : + 2.0	rack travel mm : 4.50 Rated speed rpm : 1215 Tolerance 1/min : + 5
Check tolerance cm3/1000s. : + 4.5 Foreed	rack travel mm : 0.85 Tolerance mm : + 0.55
Tolerance cm3/1000 strokes : 6.0 Check tolerance	Rated speed rpm : 1300
cm3/1000s. : 8.0	LOW IDLE
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	control lever position degree : 85.5 tolerance degree : + 4.0
GUIDE SLEEVE POSITION	Setting point w/out bumper spring
Rated speed rpm : 800	Rated speed rpm : 475 rack travel mm : 4.60
Rack travel in mm: 0.50 Tolerance mm: + 0.20	Testing:
governor spring pre-tension click setting x : 5.00	Rated speed rpm : 475 rack travel mm : 5.10 Tolerance mm : + 0.10
FULL LOAD DELIVERY AT FULL LOAD STOP	Rated speed rpm : 100
Rated speed rpm : 1100	CRT mm min. :> 19.00
Aneroid pressure hPa : 900	TORQUE CONTROL
Del. quantity cm3/1000 strokes : 92.5 Tolerance cm3/1000 strokes : + 1.0	Rated speed rpm : 1100 rack travel mm : 11.05 Tolerance mm : + 0.05
Check tolerance cm3/1000s. : + 3.0 + Spreed	Rated speed rpm : 800 rack travel mm : 11.80 Tolerance mm : + 0.10
Tolerance + cm3/1000 strokes : 4.0 +	Tolerance mm : +- 0.10

# ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rom 800 Pressure hPa 900

### **MEASUREMENT**

Pressure hPa Rated speed rpm 800 8.70 rack travel mm Tolerance mm : +- 0.20

800 Rated speed rpm

650 Pressure hPa 11.20 rack travel mm : +- 0.20 Tolerance mm

350 Pressure hPa 9.50 rack travel mm Tolerance mm : + 0.20

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

900 hPa 800 Rated speed rpm Del. quantity

cm3/1000 strokes 104.0

Tolerance

cm3/1000 strokes 2.0 Check tolerance cm3/1000s. 4.0

Aneroid pressure

hPa Rated speed rpm 800 Del. quantity

cm3/1000 strokes : 65.5

Tolerance

cm3/1000 strokes : +-1.0

Check tolerance

cm3/1000s. 3.0

#### BREAKAWAY

10.00 Rack travel in mm: Rated speed rpm 1165 Tolerance 1/min

### STARTING FUEL DELIVERY

Rated speed rpm 100 20.50 rack travel mm : + 0.50 Tolerance mm Del. quantity cm3/1000 strokes : 120.5 Tolerance cm3/1000 strokes : +- 10.0 Check tolerance cm3/1000s. : + 15.0

### LOW IDLE

Del. quantity cm3/1000 strokes : 18.5 Tolerance cm3/1000 strokes 2.0 Check tolerance cm3/1000s. 4.5 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. 8.0

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 29.01.96 Edition Test oil : ISO 4113

Combination No. : 9 400 030 739

Injection pump

Pump designation : PES6A95D320/3RS2881 EP type number : 9 410 037 215

Governor

Governer design. : RSV475...1250A0C852R

Governer no. : 9 420 034 718

Cust. part No. : 3929403

Customer-spec. information Customer : CDC Motor : 6BT Power KW : 114.0

#### TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C Tolerance °C 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 2.0

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

: 208.5 bar Tolerance bar : +- 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x Length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values

# BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : + 1.0

Prestroke mm : 2.85
Tolerance mm : + 0.05 Check

tolerance mm : + 0.10

Rack travel in mm : 10.50 Tolerance mm : +- 1.50

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240

: -300

: + - 0.50Tolerance

Check

: +- 0.75 tolerance °NW

Start of delivery blocking

*NW after s.o.d. : 7.50 Tolerance : +- 0.50

Check

tolerance °NW : + 0.75

: 1 Barrel no.

### BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm : 11.75 Tolerance mm : + 0.05

Del. quantity cm3/1000 strokes : 101.5	Check tolerance cm3/1000s. : 6.5
cm3/1000 strokes : +- 1.0	CONTROL LEVER
Check tolerance cm3/1000s. : + 3.0	control lever position degree : 102.0
Spreed Tolerance cm3/1000 strokes : 4.0	tolerance degree : + 4.0  RATED SPEED
Check tolerance cm3/1000s. : 6.5	rack travel mm : 10.70 Rated speed rpm : 1305
Del. quantity cm3/1000 strokes : 21.5	Tolerance 1/min : + 5  rack travel mm : 4.50 Rated speed rpm : 1375
cm3/1000 strokes : + 2.0 Check tolerance cm3/1000s. : + 4.5	Tolerance 1/min : + 5 rack travel mm : 0.85
Spreed Tolerance cm3/1000 strokes : 6.0	Tolerance mm : + 0.55 Rated speed rpm : 1450
Check tolerance cm3/1000s. : 8.0	LOW IDLE
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	control lever position degree : 89.0 tolerance degree : +- 4.0
GUIDE SLEEVE POSITION	Setting point w/out bumper spring
Rated speed rpm : 800	Rated speed rpm : 475 rack travel mm : 4.60
Rack travel in mm: 0.50 + Tolerance mm: + 0.20 +	Testing:
governor spring pre-tension click setting x : 5.00	Rated speed rpm : 475 rack travel mm : 5.10 Tolerance mm : + 0.10
FULL LOAD DELIVERY AT FULL LOAD STOP	Rated speed rpm : 100
Rated speed rpm : 1250	CRT mm min. : > 19.00
Aneroid pressure hPa : 900 Del. quantity	TORQUE CONTROL
cm3/1000 strokes : 101.5  Tolerance	Rated speed rpm : 1250 rack travel mm : 11.75 Tolerance mm : +- 0.05
Check tolerance cm3/1000s. : + 3.0 Spreed Tolerance	Rated speed rpm : 800 rack travel mm : 12.10 Tolerance mm : +- 0.10
cm3/1000 strokes : 4.0	1000 01100 mm

## ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

800 Rated speed rpm Pressure hPa 900

#### **MEASUREMENT**

Pressure hPa 008 Rated speed rpm 8.70 rack travel mm Tolerance mm : +- 0.20

Rated speed rpm 800

Pressure hPa 600 rack travel mm 11.50 Tolerance mm : + 0.20

Pressure hPa 275 rack travel mm 9.50 Tolerance mm : + 0.20

# FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

900 hPa 008 Rated speed rpm Del. quantity

cm3/1000 strokes 107.5

Tolerance

cm3/1000 strokes 2.0 Check tolerance

cm3/1000s. 4.0

Aneroid pressure

hPa

800 Rated speed rpm

Del. quantity cm3/1000 strokes : 65.5

Tolerance

cm3/1000 strokes 1.0

Check tolerance

3.0 cm3/1000S.: +--

# BREAKAWAY

10.70 Rack travel in mm : Rated speed rpm : 1305 Tolerance 1/min

# STARTING FUEL DELIVERY

Rated speed rpm 100 20.50 rack travel mm Tolerance mm : +- 0.50 Del. quantity cm3/1000 strokes : 120.5 Tolerance cm3/1000 strokes : + 10.0 Check tolerance cm3/1000s. : + 15.0

## LOW IDLE

Del. quantity cm3/1000 strokes : 21.5 Tolerance cm3/1000 strokes : +-2.0 Check tolerance cm3/1000s. 4.5 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. 8.0

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 30.01.96 Test oil : ISO 4113

Combination No. : 0 400 836 019

Injection pump

Pump designation : PES6A80D410/3RS2527

EP type number : 0 410 886 059

Governor

Governer design. : RQ300/1250AB935-2L Governer no. : 0 420 200 107

Cust. part No. :

Customer-spec. information Customer : KHD : F6L912 Motor Power KW : 89.0

#### TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

Tolerance *C temp. °C : +- 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly : 0 681 343 009

Opening pressure

bar : 173.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

# BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 1.95
Tolerance mm : + 0.05

Check

tolerance mm :  $\leftarrow$  0.10

Rack travel in mm: 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 0-60-120-180-240 Phasing

: -300

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm: 12.55 Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 67.0

Tolerance

cm3/1000 strokes : +- 0.5

Check tolerance

: +- 2.0 cm3/1000s.

Spreed

Tolerance

cm3/1000 strokes : 2.5

Check tolerance cm3/1000s. : 4.0	
Rated speed rpm : 300	LOW IDLE
Rack travel in mm : 8.50 Tolerance mm : + 0.10	Testing:
Del. quantity cm3/1000 strokes : 10.0 Tolerance	Rated speed rpm : 300 rack travel mm : 8.50 Tolerance mm : +- 0.10
cm3/1000 strokes : + 1.5 + Check tolerance	rack travel mm : 2.00
cm3/1000s. : +- 3.5 Spreed Tolerance	Rated speed rpm : 625 Tolerance 1/min : +- 20
cm3/1000 strokes : 4.0 +	Rated speed rpm : 100
cm3/1000s. : 6.0	CRT mm min. :> 9.50
(B) SETTING OF INJECTION PUMP	TORQUE CONTROL
1	Dimension a mm : 1.30 Rated speed rpm : 1250
+	rack travel mm : 12.55
GUIDE SLEEVE POSITION +	Tolerance mm : +- 0.05
Rated speed rpm : 800	Rated speed rpm : 800 rack travel mm : 13.80
Rack travel in mm: 20.00 + Tolerance mm: + 0.80 +	Tolerance mm : +- 0.05
<u> </u>	Rated speed rpm : 910 rack travel mm : 13.50
FULL LOAD DELIVERY AT FULL LOAD STOP	Tolerance mm : + 0.10
Rated speed rpm : 1250	Rated speed rpm : 1045
Aneroid pressure	rack travel mm : 12.85
hPa : - + Del. quantity +	Tolerance mm : +- 0.15
cm3/1000 strokes : 67.0	
Tolerance + cm3/1000 strokes : + 0.5	START CUT-OUT
Check tolerance + 2.0 +	Rated speed rpm : > 100
Spreed	Rated speed rpm : < 220
Tolerance	·
cm3/1000 strokes : 2.5	Check
Check tolerance + cm3/1000s. : 4.0 +	speed 1/min :> 80 Check
1	speed 1/min : < 240
RATED SPEED	FUEL DELIVERY CHARACTERISTICS
rack travel mm : 11.50	. OFF OFFICE ANNUALITY OF THE
Rated speed rpm : 1303	Aneroid pressure
Tolerance 1/min : +- 8	hPa : -
rack travel mm : 4.00	Rated speed rpm : 800 Del. quantity
Rated speed rpm : 1390	cm3/1000 strokes : 71.5
Tolerance 1/min : +- 15	

Tolerance cm3/1000 strokes : +-1.5 Check tolerance cm3/1000s. 3.0 **BREAKAWAY** Rack travel in mm: 11.50 Rated speed rpm : 1303 Tolerance 1/min STARTING FUEL DELIVERY 100 Rated speed rpm rack travel mm 20.50 : + 1.00 Tolerance mm Del. quantity cm3/1000 strokes : 125.0 Tolerance cm3/1000 strokes :  $\leftarrow$  7.5 Check tolerance cm3/1000s. : + 10.0LOW IDLE 300 Rated speed rpm 8.50 rack travel mm Tolerance mm : + 0.10 Del. quantity cm3/1000 strokes : 10.0 Tolerance 1.5 cm3/1000 strokes : +-Check tolerance cm3/1000s. 3.5 Spreed Tolerance 4.0 cm3/1000 strokes : Check tolerance cm3/1000s. 6.0 End of test specification sheet

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 29.01.96 Test oil : ISO 4113

Combination No. : 0 400 863 020

Injection pump

Pump designation : PES3A95D410/3RS2905

EP type number : 0 410 893 996

Governor

Governer design. : RSV325...1250A5C858L

Governer no. : 0 420 232 621

Cust. part No. : 0423 1592 KY

Customer-spec. information

Customer : KHD-DMI

Motor : F3L912/913_NEU

Power KW : 40.5

## TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp.  $^{\circ}$ C : 40 Tolerance  $^{\circ}$ C :  $\leftarrow$  2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test mozzle holde

assembly : 0 681 343 009

Opening pressure

bar : 173.5 Tolerance bar : +- 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

### REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

### BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 3.00
Tolerance mm : + 0.05
Check

tolerance mm : + 0.10

Rack travel in mm : 10.50Tolerance mm : +- 1.50

Firing order : 1- 3- 2

Phasing : 0-120-240

# BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm : 11.35
Tolerance mm : + 0.05

Del. quantity cm3/1000 strokes : 76.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance cm3/1000s. : + 3.0

Spreed

Tolerance

cm3/1000 strokes : 3.5

Check tolerance cm3/1000s. : 8.0

Rated speed rpm : 325

Rack travel in mm: 9.40	rack travel mm : 10.35 Rated speed rpm : 1295
Tolerance mm : + 0.10 - Del. quantity -	Tolerance 1/min : +- 5
cm3/1000 strokes : 21.0 -	rack travel mm : 4.00 Rated speed rpm : 1355
cm3/1000 strokes : +- 2.0 Check tolerance	Tolerance 1/min : + 15
cm3/1000s. : +- 4.5 Spreed	rack travel mm : 0.85 Tolerance mm : + 0.55
Tolerance - cm3/1000 strokes : 5.5 -	Rated speed rpm : 1450
Check tolerance - cm3/1000s. : 9.0	rack travel mm : 4.00 Rated speed rpm : 1365
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	- LOW IDLE
GUIDE SLEEVE POSITION	- control lever - position degree : 65.0
GOIDE SLEEVE POSITION	tolerance degree : +- 4.0
Rated speed rpm : 800	_
Dock through in man a C 50	Setting point w/out bumper spring
Rack travel in mm : 0.50 Tolerance mm : +- 0.20	- - Rated speed rpm : 325
7023141100 11111	- rack travel mm : 8.90
governor spring	-
pre-tension	- Testing:
click setting x : 2.25	- - Rated speed rpm : 325
	rack travel mm : 9.40
FULL LOAD DELIVERY AT FULL LOAD STOP	Tolerance mm : + 0.10
Rated speed rpm : 1250	- - rack travel mm : 2.00
Aneroid pressure	- Rated speed rpm : 500_
hPa : - +	Tolerance 1/min: +- 30
Del. quantity + cm3/1000 strokes : 76.0 +	
Tolerance	- TORQUE CONTROL
cm3/1000 strokes : + 1.0 +	
Check tolerance + 3.0 + 3.0	- Rated speed rpm : 1250 - rack travel mm : 11.35
Spreed + 5.0	Tolerance mm : +- 0.05
Tolerance +	•
cm3/1000 strokes : 3.5	Rated speed rpm : 750
Check tolerance † cm3/1000s. : 8.0	rack travel mm : 11.35 Tolerance mm : + 0.10
10000	. O. 10
	•
CONTROL LEVER	
control lever	FUEL DELIVERY CHARACTERISTICS
position degree : 99.0	
tolerance degree : +- 4.0	Aneroid pressure hPa:
RATED SPEED	Rated speed rpm : 750
101100 01 000	Too open this to too
•	

Del. quantity cm3/1000 strokes : 70.0 Tolerance cm3/1000 strokes : +-2.0 Check tolerance cm3/1000s. 4.0 BREAKAWAY Rack travel in mm : 10.35 Rated speed rpm : 1295 Tolerance 1/min : + STARTING FUEL DELIVERY Rated speed rpm 100 rack travel mm 20.25 : + - 0.75Tolerance mm Del. quantity cm3/1000 strokes : 120.0 Tolerance cm3/1000 strokes : **←** 7.5 Check tolerance cm3/1000s. : + 10.0LOW IDLE 325 Rated speed rpm 9.40 rack travel mm : + 0.10Tolerance mm Del. quantity cm3/1000 strokes : 21.0 Tolerance cm3/1000 strokes : +-2.0 Check tolerance cm3/1000s. 4.5 Spreed Tolerance cm3/1000 strokes : 5.5 Check tolerance 9.0 cm3/1000s. End of test specification sheet

## Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 30.01.96 Edition : ISO 4113 Test oil

Combination No. : 0 400 863 022

Injection pump

Pump designation : PES3A95D410/3RS2905 EP type number : 0 410 893 996

Governor

Governer design. : RSV325...1250A5C860L

Governer no. : 0 420 232 623

: 0423 1730 KY Cust. part No.

Customer-spec. information Customer : KHD-DMI

Motor : F3L912/913 NEU

Power KW : 44.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C Tolerance °C 2.0

: 1 419 992 198 Overflow valve

Inlet press. bar :

Test nozzle holde

: 0 681 343 009 assembly

Opening pressure

bar Tolerance bar

Test lines : 1 680 750 014

Outside diameter : 6.0 x inside diameter : 2.0 x length mm : 000

#### REMARKS

(A) INJECTION PUMP SETTING VALUES Set equal delivery quant.

per values _____

### BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm 3.00 : +- 0.05 Tolerance mm Check

tolerance mm : + 0.10

Rack travel in mm: 10.50 Tolerance mm : +- 1.50

Firing order : 1- 3- 2

Phasing : 0-120-240

# BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm: 11.35 : +- 0.05 Tolerance mm

Del. quantity cm3/1000 strokes : 76.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance cm3/1000s. : +- 3.0

Spreed Tolerance

cm3/1000 strokes :

3.5

Check tolerance cm3/1000s.

8.0

Rated speed rpm : 325

Rack travel in mm : 9.40 Tolerance mm : +- 0.10 Del. quantity	rack travel mm : 4.00 Rated speed rpm : 1355 Tolerance 1/min : + 15
cm3/1000 strokes : 21.0 Tolerance cm3/1000 strokes : +- 2.0	rack travel mm : 0.85 Tolerance mm : + 0.55 Rated speed rpm : 1450
Check tolerance cm3/1000s. : +- 4.5 Spreed Tolerance	rack travel mm : 4.00 Rated speed rpm : 1365
cm3/1000 strokes : 5.5 Check tolerance	†
cm3/1000s. : 9.0	LOW IDLE
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	control lever position degree : 65.0 tolerance degree : + 4.0
GUIDE SLEEVE POSITION	Setting point w/out bumper spring
Rated speed rpm : 800	+ Rated speed rpm : 325 + rack travel mm : 8.90
Rack travel in mm : 0.50 Tolerance mm : + 0.20	Testing:
FULL LOAD DELIVERY AT FULL LOAD STOP	Rated speed rpm : 325 rack travel mm : 9.40 Tolerance mm : + 0.10
Rated speed rpm : 1250 Aneroid pressure	TORQUE CONTROL
hPa : - Del. quantity cm3/1000 strokes : 76.0 Tolerance	Rated speed rpm : 1250 rack travel mm : 11.35 Tolerance mm : + 0.05
cm3/1000 strokes : + 1.0 Check tolerance	Rated speed rpm : 750
cm3/1000s. : +- 3.0 Spreed	rack travel mm : 11.35 Tolerance mm : + 0.10
Tolerance - cm3/1000 strokes : 3.5 - Check tolerance - cm3/1000 strokes : 3.5 - cm3/1000 strokes	† <del>†</del> <del>+</del>
cm3/1000s. : 8.0	
	FUEL DELIVERY CHARACTERISTICS
CONTROL LEVER	Aneroid pressure hPa : -
control lever position degree : 99.0 - tolerance degree : + 4.0 -	Rated speed rpm : 750 Del. quantity cm3/1000 strokes : 70.0
RATED SPEED	+ Tolerance + cm3/1000 strokes : +- 2.0
rack travel mm : 10.35 Rated speed rpm : 1295 Tolerance 1/min : + 5	Check tolerance cm3/1000s. : +- 4.0  BREAKAWAY
•	L DUPULANT

Rack travel in mm : 10.35
Rated speed rpm : 1295
Tolerance 1/min : + 5

# STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 20.25 Tolerance mm : + 0.75 Del. quantity cm3/1000 strokes : 120.0 Tolerance cm3/1000 strokes : + 7.5

Check tolerance cm3/1000s. : +- 10.0

## LOW IDLE

325 Rated speed rpm rack travel mm 9.40 Tolerance mm 0.10 Del. quantity cm3/1000 strokes : 21.0 Tolerance cm3/1000 strokes 2.0 Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes : 5.5 Check tolerance 9.0 cm3/1000s.

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 30.01.96 Test oil : ISO 4113

Combination No. : 0 400 863 023

# Injection pump

Pump designation : PES3A95D410/3RS2905

EP type number : 0 410 893 996

## Governor

Governer design. : RSV325...1250A5c861L

Governer no. : 0 420 232 624

Cust. part No. : 0423 1731 KY

Customer—spec. information Customer : KHD-DMI

Customer : KHD-DMI
Motor : F3L912/913_NEU

Power KW : 44.0

# TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly : 0 681 343 009

Opening pressure

bar : 173.5 Tolerance bar : +- 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

### REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

# BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 3.00
Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1- 3- 2

Phasing : 0-120-240

## BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm : 11.35 Tolerance mm : + 0.05

Del. quantity cm3/1000 strokes : 76.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance cm3/1000s. : +- 3.0

Spreed Tolerance

cm3/1000 strokes : 3.5

Check tolerance cm3/1000s.

8.0

Rated speed rpm : 325

Rack travel in mm: 9.40 Tolerance mm: + 0.10 Del. quantity cm3/1000 strokes: 21.0 Tolerance cm3/1000 strokes: + 2.0 Check tolerance cm3/1000s. : + 4.5 Spreed Tolerance cm3/1000 strokes: 5.5 Check tolerance	rack travel mm : 4.00 Rated speed rpm : 1355 Tolerance 1/min : + 15  rack travel mm : 0.85 Tolerance mm : + 0.55 Rated speed rpm : 1450  rack travel mm : 4.00 Rated speed rpm : 1365
cm3/1000s. : 9.0	T LOW IDLE
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	control lever position degree : 65.0 tolerance degree : + 4.0
GUIDE SLEEVE POSITION	+ Setting point w/out bumper spring +
Rated speed rpm : 800	+ Rated speed rpm : 325 + rack travel mm : 8.90
Rack travel in mm : 0.50 Tolerance mm : + 0.20	Testing:
FULL LOAD DELIVERY AT FULL LOAD STOP	Rated speed rpm : 325 rack travel mm : 9.40 Tolerance mm : +- 0.10
Rated speed rpm : 1250 Aneroid pressure hPa : -	TORQUE CONTROL
Del. quantity cm3/1000 strokes : 76.0 Tolerance	Rated speed rpm : 1250 rack travel mm : 11.35 Tolerance mm : + 0.05
cm3/1000 strokes : +- 1.0 Check tolerance	Rated speed rpm : 750
cm3/1000s. : +- 3.0 Spreed	rack travel mm : 11.35 Tolerance mm : + 0.10
Tolerance cm3/1000 strokes : 3.5 Check tolerance	1
cm3/1000s. : 8.0	<u> </u>
	FUEL DELIVERY CHARACTERISTICS
CONTROL LEVER	Aneroid pressure
control lever position degree : 99.0 tolerance degree : + 4.0	hPa : - Rated speed rpm : 750 Del. quantity cm3/1000 strokes : 70.0 Tolerance
RATED SPEED	- cm3/1000 strokes : +- 2.0 - Check tolerance
rack travel mm : 10.35 Rated speed rpm : 1295 Tolerance 1/min : +- 5	cm3/1000s. : +- 4.0  BREAKAWAY

10.35 Rack travel in mm: Rated speed rpm : 1295 Tolerance 1/min : +-

## STARTING FUEL DELIVERY

Rated speed rpm 100 rack travel mm 20.25 Tolerance mm : +- 0.75

Del. quantity cm3/1000 strokes : 120.0

Tolerance

cm3/1000 strokes : +- 7.5

Check tolerance

cm3/1000s. : +- 10.0

## LOW IDLE

Rated speed rpm 325 rack travel mm 9.40 Tolerance mm 0.10 Del. quantity cm3/1000 strokes : 21.0 Tolerance cm3/1000 strokes : +-2.0 Check tolerance cm3/1000s. 4.5 Spreed

Tolerance

cm3/1000 strokes : 5.5

Check tolerance

cm3/1000s. 9.0

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 29.01.96 Test oil : ISO 4113

Combination No. : 0 400 864 099

Injection pump

Pump designation : PES4A95D410/3RS2789 EP type number : 0 410 894 995

Governor

Governer design. : RSV325...1250A5C858L

Governer no. : 0 420 232 621

Cust. part No. : 0423 1595 KY

Customer—spec. information Customer : KHD-DMI

Motor : F4L912/913_NEU

Power KW : 54.0

## TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40 Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly : 0 681 343 009

Opening pressure

bar : 173.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

## BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 3.00Tolerance mm :  $\div$  0.05
Check
tolerance mm :  $\div$  0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-3-4-2

Phasing : 0-90-180-270

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm : 11.35
Tolerance mm : +- 0.05

Del. quantity cm3/1000 strokes : 76.0

Tolerance cm3/1000 strokes : +- 1.0

Check tolerance cm3/1000s. : +- 3.0

Spreed Tolerance

cm3/1000 strokes :

strokes: 3.5

8.0

Check tolerance cm3/1000s. :

Rated speed rpm : 325

Rack travel in mm : 9.40
Tolerance mm : + 0.10
Del. quantity cm3/1000 strokes : 21.0
Tolerance
<pre>cm3/1000 strokes : + 2.0 Check tolerance</pre>
cm3/1000s. : +- 4.5
Spreed Tolerance
cm3/1000 strokes : 5.5
Check tolerance cm3/1000s. : 9.0
(B) SETTING OF INJECTION PUMP
WITH GOVERNOR
CHARE OF ECAL DOCATION
GUIDE SLEEVE POSITION
Rated speed rpm : 800
Rack travel in mm : 0.50
Tolerance mm : + 0.20
governor spring
pre-tension
click setting x : 2.25
FIRE LOAD DELTHEDY AT FULL LOAD CTOD
FULL LOAD DELIVERY AT FULL LOAD STOP
Rated speed rpm : 1250
Aneroid pressure hPa : -
Del. quantity
cm3/1000 strokes : 76.0
Tolerance cm3/1000 strokes : +- 1.0
Check tolerance
cm3/1000s. : +- 3.0 Spreed
Tolerance
cm3/1000 strokes : 3.5
Check tolerance cm3/1000s. : 8.0
CONTROL LEVER
control lever
position degree : 99.0
tolerance degree : + 4.0
RATED SPEED

rack travel mm Rated speed rpm Tolerance 1/min	: 10.35 : 1295 : + 5
rack travel mm Rated speed rpm Tolerance 1/min	: 4.00 : 1355 : +- 15
rack travel mm Tolerance mm Rated speed rpm	: 0.85 : + 0.55 : 1450
rack travel mm Rated speed rpm	: 4.00 : 1365
LOW IDLE	
control lever position degree tolerance degree	: 65.0 : + 4.0
Setting point w/o	out bumper spring
Rated speed rpm rack travel mm	: 325 : 8.90
Testing:	
Rated speed rom	• 325

Rated speed rpm 325 : 9.40 : + 0.10 rack travel mm

TORQUE CONTROL

Tolerance mm

Rated speed rpm rack travel mm : 11.35 + 0.05 Tolerance mm Rated speed rpm 750

1250

70.0

rack travel mm 11.35 : + 0.10Tolerance mm

## FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa

750 Rated speed rpm :

Del. quantity cm3/1000 strokes :

Tolerance

cm3/1000 strokes : +- 2.0

Check tolerance : +- 4.0 cm3/1000s.BREAKAWAY 10.35 Rack travel in mm : Rated speed rpm : 1295 Tolerance 1/min : + 5 STARTING FUEL DELIVERY Rated speed rpm 100 20.25 rack travel mm Tolerance mm : +- 0.75 Del. quantity cm3/1000 strokes : 120.0 Tolerance cm3/1000 strokes : + 7.5Check tolerance cm3/1000s. : +- 10.0 LOW IDLE 325 Rated speed rpm rack travel mm 9.40 : + - 0.10Tolerance mm Del. quantity cm3/1000 strokes : 21.0 Tolerance cm3/1000 strokes : +-2.0 Check tolerance cm3/1000s. 4.5 Spreed Tolerance cm3/1000 strokes : 5.5 Check tolerance cm3/1000s. 9.0 End of test specification sheet

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 29.01.96 Test oil : ISO 4113

Combination No. : 0 400 864 100

Injection pump

Pump designation : PES4A95D410/3RS2905

EP type number : 0 410 894 995

Governor

Governer design. : RSV325...900A1C859L

Governer no. : 0 420 232 622

Cust. part No. : 0423 1596 KY

Customer-spec. information

Customer : KHD-DMI

Motor : F4L912/913_NEU

Power KW : 54.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly : 0 681 343 009

Opening pressure

bar : 173.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 3.00
Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm: 10.50 Tolerance mm: + 1.50

Firing order : 1-3-4-2

Phasing : 0-90-180-270

BASIC SETTING

Del. quantity cm3/1000 strokes : 80.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance cm3/1000s. : +- 3.

cm3/1000s. : +- 3.0

Spreed Tolerance

cm3/1000 strokes : 3.5

Check tolerance cm3/1000s. 8.0

Rated speed rpm : 325

Rack travel in mm: 9.40
Tolerance mm: +- 0.10

Del. quantity

cm3/1000 strokes : 21.0

Tolerance cm3/1000 strokes : + 2.0 Check tolerance cm3/1000s. : + 4.5	Rated speed rpm : 918 Tolerance 1/min : +- 10  rack travel mm : 0.85
Spreed Tolerance cm3/1000 strokes : 5.5	Tolerance mm : + 0.55 Rated speed rpm : 1090
Check tolerance cm3/1000s. 9.0	rack travel mm : 4.00 Rated speed rpm : 940
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	LOW IDLE
GUIDE SLEEVE POSITION	control lever position degree : 68.0 tolerance degree : +- 4.0
Rated speed rpm : 800	Setting point w/out bumper spring
Rack travel in mm : 0.50 Tolerance mm : + 0.20	Rated speed rpm : 325 rack travel mm : 8.90
governor spring pre-tension click setting x : 2.25	Testing:
FULL LOAD DELIVERY AT FULL LOAD STOP	rack travel mm : 2.00 Rated speed rpm : 425 Tolerance 1/min : + 30
Rated speed rpm : 890 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 80.0	+ + + + + + + + + + + + + + + + + + + +
Tolerance cm3/1000 strokes : + 1.0 Check tolerance	BREAKAWAY
cm3/1000s. : + 3.0 Spreed Tolerance cm3/1000 strokes : 3.5 Check tolerance	Rack travel in mm: 10.80 Rated speed rpm: 898 Tolerance 1/min: +- 5
cm3/1000s. : 8.0	STARTING FUEL DELIVERY
CONTROL LEVER	Rated speed rpm : 100 rack travel mm : 20.25
control lever position degree : 89.9 tolerance degree : + 4.0	Tolerance mm : + 0.75  Del. quantity  cm3/1000 strokes : 120.0  Tolerance
RATED SPEED	+ cm3/1000 strokes : +- 7.5 + Check tolerance
rack travel mm : 10.80 Rated speed rpm : 898 Tolerance 1/min : +- 5	cm3/1000s. : +- 10.0
rack travel mm : 4.00	+

## LOW IDLE

Rated speed rpm	:	325
rack travel mm	:	9.40
Tolerance mm	: +-	0.10
Del. quantity		
cm3/1000 strokes	:	21.0
Tolerance		
cm3/1000 strokes	: +	2.0
Check tolerance		
cm3/1000s.	: +-	4.5
Spreed		
Tolerance		
cm3/1000 strokes	:	5.5
Check tolerance		
cm3/1000s.	:	9.0

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 30.01.96 Edition : ISO 4113 Test oil

Combination No. : 0 400 864 101

Injection pump

Pump designation : PES4A95D410/3RS2789

EP type number : 0 410 894 995

Governor

Governer design. : RSV325...1250A5c860L

: 0 420 232 623 Governer no.

: 0423 1788 KY Cust. part No.

Customer-spec. information

: KHD-DMI Customer

Motor : F4L912/913 NEU

Power KW : 59.0

#### TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C Tolerance °C 2.0

: 1 419 992 198 Overflow valve

Inlet press. bar : 1.5

Test nozzle holde

: 0 681 343 009 assembly

Opening pressure

173.5 bar : +- 1.5 Tolerance bar

: 1 680 750 014 Test lines

Outside diameter : 6.0 x inside diameter : 2.0 600 x length mm :

#### REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

## BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

3.00 Prestroke mm : + 0.05Tolerance mm Check

tolerance mm

Rack travel in mm: 10.50 Tolerance mm : + 1.50

Firing order : 1-3-4-2

: + 0.10

Phasing : 0-90-180-270

#### BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm: 11.35 Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 76.0

Tolerance

cm3/1000 strokes : +-1.0

Check tolerance cm3/1000s.

: +- 3.0

Spreed

Tolerance

cm3/1000 strokes :

Check tolerance

cm3/1000s. : 8.0

3.5

325 Rated speed rpm :

Rack travel in mm Tolerance mm	: 9.40 : ← 0.10
Del. quantity cm3/1000 strokes	: 21.0
Tolerance cm3/1000 strokes	: <del>+</del> 2.0
Check tolerance cm3/1000s.	: +- 4.5
Spreed Tolerance	
cm3/1000 strokes Check tolerance	
cm3/1000s.	: 9.0
(B) SETTING OF IN. WITH GOVERNOR	DECTION PUMP
GUIDE SLEEVE POSIT	TION
Rated speed rpm	: 800
Rack travel in mm Tolerance mm	: - 0.50 : + 0.20
governor spring pre-tension click setting x	: 2.25
FULL LOAD DELIVERY	' AT FULL LOAD STOP
Rated speed rpm	: 1250
Aneroid pressure hPa	: -
Del. quantity cm3/1000 strokes	: 76.0
Tolerance cm3/1000 strokes	: + 1.0
Check tolerance cm3/1000S.	: +- 3.0
Spreed Tolerance	** =
cm3/1000 strokes Check tolerance	: 3.5
cm3/1000s.	: 8.0
CONTROL LEVER	
control lever	
position degree tolerance degree	: 99.0 : +- 4.0

rack travel mm Rated speed rpm Tolerance 1/min	: 10.35 : 1295 : + 5
rack travel mm Rated speed rpm Tolerance 1/min	: 4.00 : 1355 : + 15
rack travel mm Tolerance mm Rated speed rpm	: 0.85 : + 0.55 : 1450
rack travel mm Rated speed rpm	: 4.00 : 1365
LOW IDLE	
control lever position degree tolerance degree	: 65.0 : + 4.0
Setting point w/o	ut bumper spring
Rated speed rpm rack travel mm	: 325 : 8.90
Testing:	
Rated speed rpm rack travel mm Tolerance mm	: 325 : 9.40 : + 0.10
TORQUE CONTROL	
Rated speed rpm rack travel mm Tolerance mm	: 1250 : 11.35 : + 0.05
Rated speed rpm rack travel mm Tolerance mm	: 750 : 11.35 : + 0.10
FUEL DELIVERY CHAP	RACTERISTICS
Aneroid pressure hPa	: -
Rated speed rpm Del. quantity	750
cm3/1000 strokes Tolerance	: 70.0
cm3/1000 strokes	: +- 2.0

RATED SPEED

```
Check tolerance
                 : +- 4.0
cm3/1000s.
BREAKAWAY
Rack travel in mm: 10.35
Rated speed rpm : 1295
Tolerance 1/min : + 5
STARTING FUEL DELIVERY
Rated speed rpm
                      100
rack travel mm
                      20.25
Tolerance mm
                 : +- 0.75
Del. quantity
cm3/1000 strokes : 120.0
Tolerance
cm3/1000 \text{ strokes} : + 7.5
Check tolerance
cm3/1000s.
                 : +- 10.0
LOW IDLE
                      325
Rated speed rpm
                 .
                      9.40
rack travel mm :
                 : + 0.10
Tolerance mm
Del. quantity
cm3/1000 strokes : 21.0
Tolerance
cm3/1000 strokes : +- 2.0
Check tolerance
cm3/1000s.
                 : +- 4.5
Spreed
Tolerance
                       5.5
cm3/1000 strokes :
Check tolerance
                       9.8
cm3/1000s.
End of test specification sheet
```

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 29.01.96 Test oil : ISO 4113

Combination No. : 0 400 864 102

Injection pump

Pump designation : PES4A95D41D/3RS2789

EP type number : 0 410 894 995

Governor

Governer design. : RSV325...1250A5C861L

Governer no. : 0 420 232 624

Cust. part No. : 0423 1789 KY

Customer-spec. information

Customer : KHD-DMI
Motor : F4L912/913_NEU

Power KW : 59.0

Power Rw : 39.0

#### TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly : 0 681 343 009

Opening pressure

bar : 173.5 Tolerance bar : +- 1.5

Test Lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

## BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 3.00
Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 10.50 Toterance mm : + 1.50

Firing order : 1-3-4-2

Phasing : 0-90-180-270

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm: 11.35

Tolerance mm : + 0.05

Del. quantity cm3/1000 strokes : 76.0

Tolerance

cm3/1000 strokes : + 1.0

Check tolerance cm3/1000s. : +- 3.0

Spreed

Tolerance

cm3/1000 strokes :

3.5

Check tolerance

cm3/1000s.

8.0

Rated speed rpm : 325

Rack travel in mm Tolerance mm	: 9.40 : +- 0.10
Del. quantity cm3/1000 strokes	: 21.0
Tolerance cm3/1000 strokes	: +- 2.0
Check tolerance cm3/1000s.	: + 4.5
Spreed Tolerance	
cm3/1000 strokes Check tolerance	: 5.5
cm3/1000s.	: 9.0
(B) SETTING OF IN- WITH GOVERNOR	JECTION PUMP
GUIDE SLEEVE POSI	TION
Rated speed rpm	: 800
Rack travel in mm Tolerance mm	: 0.50 : + 0.20
governor spring pre-tension click setting x	: 2.25
FULL LOAD DELIVERY	Y AT FULL LOAD STOP
Rated speed rpm Aneroid pressure	: 1250
hPa	• -
Del. quantity cm3/1000 strokes	: 76.0
Tolerance cm3/1000 strokes	: + 1.0
Check tolerance cm3/1000s.	: <del>+</del> 3.0
Spreed Tolerance	7 6
cm3/1000 strokes Check tolerance	: 3.5
cm3/1000s.	: 8.0
CONTROL LEVER	

Check tolerance cm3/1000s. Spreed Tolerance	; +···	3.0	
cm3/1000 strokes	:	3.5	
Check tolerance cm3/1000s.	:	8.0	
CONTROL LEVER			
control lever position degree tolerance degree	: +-	99.0 4.0	
RATED SPEED			
120			
L20			

rack travel mm	: 10.35
Rated speed rpm	: 1295
Tolerance 1/min	: + 5
rack travel mm	: 4.00
Rated speed rpm	: 1355
Tolerance 1/min	: + 15
rack travel mm	: 0.85
Tolerance mm	: + 0.55
Rated speed rpm	: 1450
rack travel mm	: 4.00
Rated speed rpm	: 1365

# LOW IDLE

control lever position degree tolerance degree	: 65.0 : ← 4.0
Setting point w/out	t bumper spring

Rated speed rpm : 325 8.90 rack travel mm :

Testing:

Rated speed rpm : 325 rack travel mm : 9.40 Tolerance mm : + 0.10

## TORQUE CONTROL

rack travel mm : 11.35
Tolerance mm : +- 0.05 Tolerance mm Rated speed rpm : 750 rack travel mm : 11.35 : + 0.10 Tolerance mm

Rated speed rpm : 1250

## FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa 750 Rated speed rpm : Del. quantity cm3/1000 strokes : 70.0 Tolerance cm3/1000 strokes : +- 2.0

Check tolerance : +- 4.0 cm3/1000s. BREAKAWAY Rack travel in mm: 10.35 Rated speed rpm : 1295 Tolerance 1/min : +-STARTING FUEL DELIVERY Rated speed rpm 100 rack travel mm 20.25 : + 0.75Tolerance mm Del. quantity cm3/1000 strokes : 120.0 Tolerance cm3/1000 strokes : +- 7.5 Check tolerance cm3/1000s. : + 10.0 LOW IDLE 325 Rated speed rpm : 9.40 rack travel mm Tolerance mm : + 0.10Del. quantity cm3/1000 strokes : 21.0 Tolerance cm3/1000 strokes : +-2.0 Check tolerance cm3/1000s. 4.5 Spreed Tolerance cm3/1000 strokes : 5.5 Check tolerance cm3/1000s. 9.0 End of test specification sheet

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 30.01.96 Edition : ISO 4113 Test oil

Combination No. : 0 400 865 028

Injection pump

Pump designation : PES5A95D410/3RS2906 : 0 410 895 971

EP type number

Governor

Governer design. : RSV325...1250A5C858L

: 0 420 232 621 Governer no.

Cust. part No. : 0423 1598 KY

Customer-spec. information : KHD-DMI Customer

: F5L912/913_NEU Motor

Power KW : 67.5

## TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C Tolerance °C 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

: 0 681 343 009 assembly

Opening pressure

173.5 bar : +- 1.5 Tolerance bar

: 1 680 750 014 Test lines

Outside diameter : 6.0 x inside diameter : 2.0 x length mm : 600

#### REMARKS

(A) INJECTION PUMP SETTING VALUES Set equal delivery quant.

per values _____

#### BEGINNING OF DELIVERY

26.0 Test pressure bar : Tolerance bar : + 1.0

Prestroke mm 3.00 Tolerance mm : + - 0.05Check

tolerance mm : + 0.10

Rack travel in mm : 10.50 Tolerance mm : +- 1.50

Firing order : 1-3-5-4-2

Phasing : 0-72-144-216-288

## BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm: 11.35 : ← 0.05 Tolerance mm

Del. quantity

cm3/1000 strokes : 70.0

Tolerance

1.0 cm3/1000 strokes : +-

Check tolerance cm3/9000s.

3.0 : +-

Spreed

Tolerance

cm3/1000 strokes :

3.5

Check tolerance

8.0 cm3/1000s.

325 Rated speed rpm :

Rack travel in mm: 9.40 Tolerance mm: +- 0.10 Del. quantity
cm3/1000 strokes : 21.0
Tolerance cm3/1000 strokes : + 2.0
Check tolerance cm3/1000s. : +- 4.5 Spreed
Tolerance cm3/1000 strokes : 5.5
Check tolerance cm3/1000s. : 9.0
(B) SETTING OF INJECTION PUMP WITH GOVERNOR
GUIDE SLEEVE POSITION
Rated speed rpm : 800
Rack travel in mm : 0.50 Tolerance mm : + 0.20
<pre>governor spring pre-tension click setting x : 2.25</pre>
FULL LOAD DELIVERY AT FULL LOAD STOP
Rated speed rpm : 1250
Aneroid pressure hPa : -
Del. quantity cm3/1000 strokes : 70.0
Tolerance cm3/1000 strokes : +- 1.0
Check tolerance cm3/1000s. : + 3.0
Spreed
Tolerance cm3/1000 strokes : 3.5
Check tolerance cm3/1000s. : 8.0
CONTROL LEVER
control lever
position degree : 99.0 tolerance degree : +- 4.0

rack travel mm Rated speed rpm Tolerance 1/min	: 10.35 : 1295 : + 5
rack travel mm Rated speed rpm Tolerance 1/min	
rack travel mm Tolerance mm Rated speed rpm	: 0.85 : + 0.55 : 1450
rack travel mm Rated speed rpm	: 4.00 : 1365
LOW IDLE	
control lever position degree tolerance degree	: 65.0 : + 4.0
Setting point w/o	ut bumper spring
Rated speed rpm rack travel mm	: 325 : 8.90
Testing:	
Rated speed rpm rack travel mm Tolerance mm	: 325 : 9.40 : + 0.10
TORQUE CONTROL	
Rated speed rpm rack travel mm Tolerance mm	: 1250 : 11.35 : + 0.05
Rated speed rpm rack travel mm Tolerance mm	: 750 : 11.35 : +- 0.10

## FUEL DELIVERY CHARACTERISTICS

Aneroid pressure		
hPa	:	
Rated speed rpm	:	750
Del. quantity		
cm3/1000 strokes	:	62.0
Tolerance		
cm3/1000 strokes	: +	- 2.0

RATED SPEED

Check tolerance cm3/1000s. : +- 4.0 **BREAKAWAY** Rack travel in mm: 10.3 Rated speed rpm: 1295 10.35 Tolerance 1/min : + 5 STARTING FUEL DELIVERY 100 Rated speed rpm : 20.25 rack travel mm : + 0.75Tolerance mm Del. quantity cm3/1000 strokes : 120.0 Tolerance cm3/1000 strokes : + 7.5Check tolerance cm3/1000s. : + 10.0LOW IDLE 325 Rated speed rpm : rack travel mm : 9.40 Tolerance mm : + 0.10Del. quantity 21.0 cm3/1000 strokes : Tolerance cm3/1000 strokes : + 2.0 Check tolerance cm3/1000s. : +- 4.5 Spreed Tolerance 5.5 cm3/1000 strokes : Check tolerance 9.0 cm3/1000s. End of test specification sheet

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 31.01.96 Test oil : ISO 4113

Combination No. : 0 400 866 082

Injection pump

Pump designation : PES6A85D410/3RS2415

EP type number : 0 410 886 915

Governor

Governer design. : RS325/1325A0C709DL

Governer no. : 0 420 220 009

Cust. part No.

Customer—spec. information Customer : KHD

Motor : RF0L913

#### TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly : 0 581 343 009

Opening pressure

bar : 173.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values

## BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 1.95
Tolerance mm : + 0.05

Check

tolerance mm :  $\leftarrow$  0.10

Rack travel in mm : 10.50
Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

#### BASIC SETTING

Rated speed rpm : 1325

Rack travel in mm : 12.05 Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 87.0

Tolerance

cm3/1000 strokes : +- 0.5

Check tolerance

cm3/1000s. : +-

Spreed

Tolerance

cm3/1000 strokes :

3.0

2.5

Check tolerance

cm3/1000S.

7.0

:

		+ Rated speed rpm	: 1600
Rated speed rpm	: 325	+	
	0.70	+	
Rack travel in m	m: 8.30 :+- 0.10	100 700 5	
Tolerance mm Del. quantity	: +- 0.10	T LOW IDLE	
cm3/1000 strokes	: 16.5	I Setting point w/o	out bumper spring
Tolerance		+ Sections points with	out bumper aprillig
cm3/1000 strokes	: +- 2.0	Rated speed rpm	: 500
Check tolerance		+ rack travel mm	
cm3/1000s.	: +- 4.0	+	
Spreed		+ Testing:	
Tolerance	. / 5	† Saturbara da man	705
cm3/1000 strokes	: 4.5	+ Rated speed rpm	
Check tolerance cm3/1000s.	: 7.0	+ rack travel mm + Tolerance mm	: 6.50 : +- 0.10
Chor roots.		T roceratice initi	0.10
		rack travel mm	: 2.00
(B) SETTING OF IN	NJECTION PUMP	+ Rated speed rpm	
WITH GOVERNOR		+ Tolerance 1/min	: +- 25
		+	400
		+ Rated speed rpm	: 100
FILL LOAD DELTUES	RY AT FULL LOAD STOP	CRT mm min.	: 14.75
FULL LOWD DELIVER	RI AI FULL LUAD STOP	I car min mirr.	. 14.73
Rated speed rpm	: 1325		
Aneroid pressure		+ TORQUE CONTROL	
hPa	: 700	+	
Del. quantity		+ Rated speed rpm	: 1325
cm3/1000 strokes	: 87.0	+ rack travel mm	: 12.05
Tolerance		+ Tolerance mm	: <del>+-</del> 0.05
cm3/1000 strokes Check tolerance	: <del>+-</del> 0.5	Pated aread nam	: 500
cm3/1000S.	: +- 2.5	+ Rated speed rpm + rack travel mm	: 12.10
Spreed		Tolerance mm	: +- 0.10
Tolerance		+	
cm3/1000 strokes	: 3.0	+ Rated speed rpm	: 800
Check tolerance		+ rack travel mm	: 12.10
cm3/1000S.	: 7.0	+ Tolerance mm	: +- 0.10
		†	
		ANEROID/ALTITUDE	
CONTROL LEVER		COMPENSATOR TEST	
OOM NOT TEACH		1	
control lever		+	
position degree		+ SETTING	
tolerance degree	: +- 4.0	+	
		+ Rated speed rpm	: 500
RATED SPEED		+ Pressure hPa + rack travel mm	: 700 : 12.05
rack travel mm	: 11.00	+ Tolerance mm	: +- 0.05
Rated speed rpm	: 1360	T roter ance inin	. 1 0.03
Tolerance 1/min	: +- 5	+ MEASUREMENT	
. 2 22. 20.00	-	+	
rack travel mm	: 4.00	+ Pressure hPa	
Rated speed rpm		+ Rated speed rpm	
Tolerance 1/min	: +- 15	+ rack travel mm	
	. 005	† Tolerance mm	: +- 0.05
rack travel mm Tolerance mm	: 0.85 : + 0.55	Rated speed rpm	; 500
toretaile mil	0.55	rated speed (pill	. 500

L26

Pressure hPa rack travel mm	: 266 : 11.30
Tolerance mm	: +- 0.10
Pressure hPa	: 373
rack travel mm Tolerance mm	: 11.75 : + 0.05
rocerance mm	. 1 0.05
FUEL DELIVERY CHA	RACTERISTICS
Aneroid pressure	700
hPa Rated speed rpm	: 700 : 800
Del. quantity	
cm3/1000 strokes Tolerance	: 78.5
cm3/1000 strokes	: + 1.5
Check tolerance cm3/1000s.	: + 3.5
	3.3
Aneroid pressure hPa	
Rated speed rpm	500
Del. quantity cm3/1000 strokes	: 57.0
Tolerance	. 57.0
cm3/1000 strokes Check tolerance	: +- 0.5
cm3/1000s.	: <del>+</del> 2.5
BREAKAWAY	
Rack travel in mm	
Rated speed rpm Tolerance 1/min	: 1360 : +- 5
Toterance Tripin	, (- )
STARTING FUEL DEL	IVERY
Rated speed rpm	: 100_
rack travel mm	: 16.50
Tolerance mm Del. quantity	: + 0.20
cm3/1000 strokes	: 108.0
Tolerance cm3/1000 strokes	: <del>+-</del> 7.5
	. , , , ,
Check tolerance cm3/1000s.	: <del>+</del> 10.0

Rated speed rpm	:	325
rack travel mm	:	8.30
Tolerance mm	: +	0.10
Del. quantity		
cm3/1000 strokes	:	16.5
Tolerance		
cm3/1000 strokes	: +-	2.0
Check tolerance		
cm3/1000s.	: +-	4.0
Spreed		
Tolerance		
cm3/1000 strokes	:	4.5
Check tolerance		
cm3/1000s.	:	7.0

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 29.01.96 Edition Test oil : ISO 4113

Combination No. : 0 400 866 224

Injection pump

Pump designation : PES3A95D410/3RS2905

EP type number

Governor

Governer design. : RSV325...1250A5C858L

Governer no.

Cust. part No. : 0423 1592 KY

Customer-spec. information Customer : KHD-DMI

: F3L912/913 NEU Motor

Power KW : 40.5

## TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C Tolerance °C 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

: 0 681 343 009 assembly

Opening pressure

: 173.5 Tolerance bar : + 1.5

: 1 680 750 014 Test Lines

Outside diameter : 6.0 x inside diameter: 2.0 x length mm

## REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

## BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar  $: \leftarrow 1.0$ 

Prestroke mm 3.00 Tolerance mm : +- 0.05 Check

tolerance mm : + 0.10

Rack travel in mm: 10.50 Tolerance mm : +- 1.50

Firing order : 1- 3- 2

: 0-120-240 Phasing

#### BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm: 11.35 Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 76.0

Tolerance

cm3/1000 strokes : +-1.0

Check tolerance cm3/1000s.

: +- 3.0

Spreed Tolerance

cm3/1000 strokes :

3.5

Check tolerance cm3/1000s.

8.0

Rated speed rpm :

325

	+ rack travel mm : 10.35
Rack travel in mm : 9.40	+ Rated speed rpm : 1295
Tolerance mm : +- 0.10	→ Tolerance 1/min :  → 5
Del. quantity	+
cm3/1000 strokes : 21.0	+ rack travel mm : 4.00
Tolerance	+ Rated speed rpm : 1355
cm3/1000 strokes : + 2.0	† Tolerance 1/min : + 15
Check tolerance	+
cm3/1000s. : +- 4.5	+ rack travel mm : 0.85
Spreed	+ Tolerance mm : + 0.55
Tolerance 5.5	+ Rated speed rpm : 1450
cm3/1000 strokes : 5.5	†
Check tolerance	rack travel mm : 4.00
cm3/1000s. : 9.0	+ Rated speed rpm : 1365
	Ť
(B) SETTING OF INJECTION PUMP	T
WITH GOVERNOR	LOW IDLE
WITH GOVERNOR	T LOW IDLE
	Ī
	t control lever
GUIDE SLEEVE POSITION	position degree : 65.0
GOIDE SEEENE LOSTITON	tolerance degree : +- 4.0
Rated speed rpm : 800	T toterance degree : +- 4.0
Rated Speed (pill . 000	F Setting point w/out bumper spring
Rack travel in mm : 0.50	T secting point wroat bumper spring
Tolerance mm : + 0.20	Rated speed rpm : 325
TOTEL GILLE HAIL	rack travel mm : 8.90
governor spring	T rack cravet min . 5.70
pre-tension	Testing:
click setting x : 2.25	T resume.
cerek secting x : 2.25	Rated speed rpm : 325
	rack travel mm : 9.40
FULL LOAD DELIVERY AT FULL LOAD STOP	Tolerance mm : +- 0.10
FOLL LOAD DELIVER! AT FOLL LOAD STOP	Troceratice and
Rated speed rpm : 1250	rack travel mm : 2.00
Aneroid pressure	+ Rated speed rpm : 500
hPa : -	+ Tolerance 1/min : +- 30
Del. quantity	Total and Triming 1.
cm3/1000 strokes : 76.0	
Tolerance	+ TORQUE CONTROL
cm3/1000 strokes : + 1.0	
Check tolerance	Rated speed rpm : 1250
cm3/1000s. : +- 3.0	+ rack travel mm : 11.35
Spreed	+ Tolerance mm : + 0.05
Tolerance	+
cm3/1000 strokes : 3.5	Rated speed rpm : 750
Check tolerance	+ rack travel mm : 11.35
cm3/1000s. : 8.0	+ Tolerance mm : + 0.10
	+
	+
CONTROL LEVER	+
	+
control lever	+ FUEL DELIVERY CHARACTERISTICS
position degree : 99.0	+
tolerance degree : +- 4.0	+ Aneroid pressure
	+ hPa : -
RATED SPEED	+ Rated speed rpm : 750

Del. quantity cm3/1000 strokes : 70.0 Tolerance cm3/1000 strokes 2.0 Check tolerance cm3/1000s. 4.0 BREAKAWAY Rack travel in mm: 10.35 Rated speed rpm : 1295 Tolerance 1/min : -STARTING FUEL DELIVERY Rated speed rpm 100 rack travel mm 20.25 Tolerance mm : + 0.75Del. quantity cm3/1000 strokes : 120.0 Tolerance cm3/1000 strokes : + 7.5Check tolerance cm3/1000s. : + 10.0LOW IDLE 325 Rated speed rpm 9.40 rack travel mm : + 0.10Tolerance mm Del. quantity cm3/1000 strokes : 21.0 Tolerance cm3/1000 strokes :  $\div$  2.0 Check tolerance cm3/1000s. 4.5 Spreed Tolerance 5.5 cm3/1000 strokes : Check tolerance 9.0 cm3/1000s. End of test specification sheet

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 24.01.96 Test oil : ISO 4113

Combination No. : 9 400 030 708

Injection pump

Pump designation : PES6A100D320/3RS3506

EP type number : 9 410 037 236

Governor

Governer design. : RQV400...1250AB1301R

Governer no. : 9 420 030 158

Cust. part No. : TATA-CUMMINS

Customer-spec. information Customer : CUMMINS

Motor : 6BT - 125 ps

## TEST BENCH REQUIREMENTS

Inlet line : 1.1;

Test oil inlet

temp. *C : 40 Tolerance *C : + 2.0

Overflow valve : 9 451 037 430

Inlet press. bar : 2.0
Tolerance bar : + 0.1

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar : 208.5 Tolerance bar : +- 1.5

Test Lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 3.60
Tolerance mm : + 0.05

Check

tolerance mm :  $\leftarrow$  0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm : 10.30 Tolerance mm : +- 0.05

(B) SETTING OF INJECTION PUMP

WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 400

guide sleeve

travel mm : 1.71
Tolerance mm : +- 0.20

Rated speed rpm : 1347

guide sleeve

travel mm : 8.48

Tolerance mm : + 0.15	+
Rated speed rpm : 880 guide sleeve travel mm : 4.97 Tolerance mm : + 0.25	control lever position degree : 15.0 tolerance degree : + 4.0 Testing:
Rated speed rpm : 499 guide sleeve travel mm : 2.75 Tolerance mm : + 0.25	Rated speed rpm : 400 rack travel mm : 6.40 Tolerance mm : + 0.10
Rated speed rpm : 549 guide sleeve travel mm : 3.30 Tolerance mm : + 0.25  Rated speed rpm : 560 guide sleeve travel mm : 3.37	rack travel mm : 2.00 Rated speed rpm : 630 Tolerance 1/min : + 30  Rated speed rpm : 100  CRT mm min. :> 9.00
Tolerance mm : + 0.25  Rated speed rpm : 1620 guide sleeve travel mm : 11.50 Tolerance mm : + 0.50	TORQUE CONTROL  Rated speed rpm : 1250 rack travel mm : 10.30 Tolerance mm : +- 0.05
GUIDE SLEEVE POSITION  Rated speed rpm : 1250  Rack travel in mm : 16.00  Tolerance mm : + 1.30	Rated speed rpm : 550 rack travel mm : 10.30 Tolerance mm : + 0.10  Rated speed rpm : 750 rack travel mm : 10.30 Tolerance mm : + 0.15
CONTROL LEVER  control lever position degree : 61.0	ANEROID/ALTITUDE COMPENSATOR TEST SETTING
tolerance degree : + 4.0  RATED SPEED  rack travel mm : 9.30 Rated speed rpm : 1335	Rated speed rpm : 800 Pressure hPa : 1000 rack travel mm : 10.30 Tolerance mm : + 0.05
Tolerance 1/min : +- 5  rack travel mm : 4.00  Rated speed rpm : 1430  Tolerance 1/min : +- 15	MEASUREMENT  Rated speed rpm : 800  Pressure hPa : - rack travel mm : 10.30
rack travel mm : 0.50 Tolerance mm : +- 0.50 Rated speed rpm : 1490	Tolerance mm : +- 0.05  - Pressure hPa : 500 - rack travel mm : 10.30 - Tolerance mm : +- 0.05
LOW IDLE	‡

## START CUT-OUT

Rated speed rpm : > 120 Rated speed rpm : < 300

## Check

speed 1/min : > 100 Check speed 1/min : < 340

## **BREAKAWAY**

Rack travel in mm : 9.30
Rated speed rpm : 1335
Tolerance 1/min : +- 5

## STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 14.40 Tolerance mm : + 0.50

## BOSCH INJ. PUMP TEST SPECIFICATIONS Note remarks Refer to Service Info for test and adjustment instructions. See microcard(s) W400/... : 14.09.94 Edition : ISO 4113 Test oil Combination No. : 9 400 085 315 Injection pump Pump designation : PES6A95D41ORS2772 : 9 400 084 018 EP type number Governor Governer design. : RQV300...1300AB1066 : -9L : 9 420 080 282 Governer no. Cust. part No. Customer-spec. information Customer : MBB : OM 366 A Motor Power KW : 125.0 TEST BENCH REQUIREMENTS Inlet line : 3.1 Test oil inlet temp. °C 40 Tolerance °C 2.0 Overflow valve : 1 419 992 198 Inlet press. bar : 1.5 Test nozzle holde : 0 681 343 009 assembly Opening pressure 173.5 Tolerance bar : +- 1.5 : 1 680 750 015 Test lines

x inside diameter x length mm	: 3.0 : 600
REMARKS	
(A) INJECTION PUM Set equal delivery per values	
BEGINNING OF DELIV	VERY
Test pressure bar Tolerance bar	: 26.0 : + 1.0
Prestroke mm Tolerance mm Check	: 3.25 : + 0.05
tolerance mm	: + 0.10
Rack travel in mm Tolerance mm	: 10.50 : +- 1.50
Firing order	: 1-5- 3- 6- 2- : 4
Phasing	: 0-60-120-180-240 : -300
BASIC SETTING	
Rated speed rpm	: 1300
Rack travel in mm Tolerance mm	: 10.45 : +- 0.05
Del. quantity cm3/1000 strokes	: 88.0
Tolerance cm3/1000 strokes	: +- 1.0
Check tolerance cm3/1000s.	: + 3.0
Spreed Tolerance cm3/1000 strokes	: 3.5
Check tolerance cm3/1000s.	: 8.0

Outside diameter :

6.0

L	Spreed
Del. quantity	Tolerance
cm3/1000 strokes : 11.5	cm3/1000 strokes : 3.5
Tolerance	Check tolerance
cm3/1000 strokes : +- 2.0 +	cm3/1000s. : 8.0
Check tolerance	
cm3/1000s. : + 4.5	
Spreed	
Tolerance	CONTROL LEVER
cm3/1000 strokes : 3.5	
Check tolerance +	control lever
cm3/1000s. : 9.0 +	position degree : 109.0
+	tolerance degree : +- 4.0
+	
(B) SETTING OF INJECTION PUMP	RATED SPEED
WITH GOVERNOR +	
+	rack travel mm : 9.40
	Rated speed rpm : 1365
GUIDE SLEEVE TRAVEL	Tolerance 1/min : + 5
Dated around non-	mode demonstrate and 1 00
Rated speed rpm : 300	rack travel mm : 4.00
guide steeve	Rated speed rpm : 1485
travel mm : 1.05	Tolerance 1/min : + 15
Tolerance mm : + 0.25	pools through the control of the
Botad around non a 1500	rack travel mm : 0.50 Tolerance mm : +- 0.50
Rated speed rpm : 1500	
guide sleeve + travel mm : 8.55 +	Rated speed rpm : 1650
Tolerance mm : + 0.05	
Rated speed rpm : 500	LOW IDLE
guide sleeve	EOM INCL
travel mm : 2.55	
Tolerance mm : + 0.25 *	control lever
TOCCI GITOC IIIII	position degree : 68.0
Rated speed rpm : 750	tolerance degree : + 4.0
guide sleeve	
travel mm : 4.20 +	Testing:
Tolerance mm : + 0.10	
+	Rated speed rpm : 300
	rack travel mm : 7.00
GUIDE SLEEVE POSITION +	Tolerance mm : + 0.10
+	
Rated speed rpm : 1500 +	Rated speed rpm : 100
<b>†</b>	
Rack travel in mm: 16.50	CRT mm min. :> 8.00
Tolerance mm : + 1.30 +	
+	Rated speed rpm : 375
PULL LOAD DELTIPOV AT PULL LOAD OTOD	
FULL LOAD DELIVERY AT FULL LOAD STOP	TODOUT CONTROL
But ad annual man at 1700	TORQUE CONTROL
Rated speed rpm : 1300	Poted speed nom . 1700
Aneroid pressure + 800 +	Rated speed rpm : 1300 rack travel mm : 10.45
	rack travel mm : 10.45 Tolerance mm : +- 0.05
Del. quantity cm3/1000 strokes : 88.0	roterance min
	Rated speed rpm : 800
Tolerance + 1.0 + 1.0	rack travel mm : 10.95
	Tolerance mm : +- 0.05
Check tolerance + 3.0 +	roterance mm . T U.UJ
cm3/1000s. : +- 3.0 +	

M07

Rated speed rpm rack travel mm Tolerance mm	: 1000 : 10.70 : + 0.10	Tolerance - cm3/1000 strokes : +- 2.0 Check tolerance - cm3/1000s. : +- 4.0
ANEROID/ALTITUDE COMPENSATOR TEST		Aneroid pressure hPa : - Rated speed rpm : 500
SETTING		- Del. quantity - cm3/1000 strokes : 51.0 - Tolerance
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 800	cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0
MEASUREMENT		BREAKAWAY
Pressure hPa Rated speed rpm Rated speed rpm	: - : 500 : 500	Rack travel in mm: 9.40 Rated speed rpm: 1365 Tolerance 1/min: +- 5
Pressure hPa rack travel mm Tolerance mm	: 300 : 0.50 : + 0.10	STARTING FUEL DELIVERY
Pressure hPa rack travel mm Tolerance mm	: 460 : 1.15 : + 0.05	Rated speed rpm : 100 rack travel mm : 13.70 Tolerance mm : + 0.10 Del. quantity
START CUT-OUT Rated speed rpm	: > 100	- cm3/1000 strokes : 85.0 - Tolerance - cm3/1000 strokes : + 7.5 - Check tolerance
Rated speed rpm		cm3/1000s. : + 10.0
Check speed 1/min Check	; > 80	
speed 1/min	: < 240	LOW IDLE  Del. quantity
FUEL DELIVERY CHA	ARACTERISTICS	cm3/1000 strokes : 11.5
Aneroid pressure hPa	: 800	t cm3/1000 strokes : + 2.0 Check tolerance
Rated speed rpm Del. quantity		+ cm3/1000S. : +- 4.5 + Spreed + Tolerance
cm3/1000 strokes Tolerance cm3/1000 strokes		cm3/1000 strokes : 3.5 Check tolerance
Check tolerance cm3/1000s.	: +- 4.0	+ cm3/1000s. : 9.0
Aneroid pressure hPa Rated speed rpm Del. quantity	: 800 : 1000	
cm3/1000 strokes	: 87.5	

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 05.02.96 Edition Test oil : ISO 4113

Combination No. : 0 402 066 704

Injection pump

Pump designation : PES6P120A120RS3358 EP type number : 0 412 026 784

Governor

Governer design. : RSV475...1250P2A613

Governer no. : 0 421 833 501

Cust. part No. : 3927359

Customer-spec. information : CDC Customer

: 6BTA-590 ELITE Motor

Power KW : 149.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C 2.0 Tolerance °C

Overflow valve : 2 417 413 086

Inlet press. bar : 1.5

Test nozzle holde

: 1 688 901 103 assembly

Opening pressure

208.5 bar Tolerance bar

: 1 680 750 089 Test Lines

8.0 Outside diameter :

x inside diameter: 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant. per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 2.85 : + - 0.05Tolerance mm

Check

tolerance mm : + 0.10

Rack travel in mm : 10.50 Tolerance mm : +- 1.50

: 1-5-3-6-2-Firing order

: 4

: 0-60-120-180-240 Phasing

: -300

ToLerance : + 0.30

Check

: +- 0.50tolerance °NW

Start of delivery blocking

*NW after s.o.d. : 7.50 Tolerance : + 0.50

Check

tolerance *NW : +- 0.75

: 1 Barrel no.

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm: 11.90 Tolerance mm : + 0.05

Del. quantity cm3/1000 strokes : 152.0	Check tolerance cm3/1000s. : 7.5
Tolerance cm3/1000 strokes : + 1.0	CONTROL LEVER
Check tolerance cm3/1000s. : + 3.0	control lever position degree : 110.0
Spreed Tolerance cm3/1000 strokes : 4.0	tolerance degree : +- 4.0  RATED SPEED
Check tolerance cm3/1000s. : 7.5	rack travel mm : 10.90 Rated speed rpm : 1320
Rated speed rpm : 475	Tolerance 1/min : + 5
Rack travel in mm: 5.50 Tolerance mm: + 0.30 Del. quantity	rack travel mm : 4.00 Rated speed rpm : 1420 Tolerance 1/min : + 15
cm3/1000 strokes : 22.0 Tolerance cm3/1000 strokes : + 2.0	rack travel mm : 0.85 Tolerance mm : + 0.55 Rated speed rpm : 1500
Check tolerance cm3/1000s. : + 4.5	
Tolerance cm3/1000 strokes : 6.0 Check tolerance	LOW IDLE
cm3/1000s. : 9.0	control lever position degree : 84.0 tolerance degree : +- 4.0
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	Testing:
	Rated speed rpm : 475 rack travel mm : 5.50
GUIDE SLEEVE POSITION	Tolerance mm : ← 0.10
Rated speed rpm : 800  Rack travel in mm : 0.50	rack travel mm : 2.00 Rated speed rpm : 570 Tolerance 1/min : +- 30
Tolerance mm : + 0.20	SET IDLE AUXILIARY SPRING
FULL LOAD DELIVERY AT FULL LOAD STOP	rack travel mm : 2.00
Rated speed rpm : 1250 Aneroid pressure hPa : 1500	TORQUE CONTROL
Del. quantity cm3/1000 strokes : 152.0 Tolerance	Rated speed rpm : 1250 rack travel mm : 11.90 Tolerance mm : +- 0.05
cm3/1000 strokes : +- 1.0	Rated speed rpm : 750 rack travel mm : 11.90 Tolerance mm : + 0.10
Tolerance cm3/1000 strokes : 4.0	10501 GITTO IIIII

## ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm 500 Pressure hPa 1500 11.90 rack travel mm Tolerance mm : +- 0.05

#### **MEASUREMENT**

Pressure hPa 500 Rated speed rpm 9.10 rack travel mm : ← 0.20 Tolerance mm

500 Rated speed rpm

975 Pressure hPa 11.20 rack travel mm Tolerance mm : +- 0.20

575 Pressure hPa 9.50 rack travel mm : + 0.05Tolerance mm

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

1500 hPa Rated speed rpm 750 Del. quantity cm3/1000 strokes : 170.0 Tolerance cm3/1000 strokes : +-3.0

Check tolerance cm3/1000s.

Spreed Tolerance

cm3/1000 strokes : 12.0

6.0

Check tolerance cm3/1000s. 16.0

Aneroid pressure

hPa 500 Rated speed rpm Del. quantity cm3/1000 strokes : 99.0

Tolerance

cm3/1000 strokes 2.0

Check tolerance

cm3/1000s. 4.0

#### BREAKAWAY

Rack travel in mm : 10.90 Rated speed rpm 1320 Tolerance 1/min

#### STARTING FUEL DELIVERY

Rated speed rpm 100 20.25 rack travel mm Tolerance mm : ← 0.75 Del. quantity

cm3/1000 strokes : 165.0

Tolerance

cm3/1000 strokes : +- 20.0Check tolerance

cm3/1000s. : +- 25.0

#### LOW IDLE

475 Rated speed rpm 5.50 rack travel mm 0.30 Tolerance mm Del. quantity cm3/1000 strokes : 22.0 Tolerance cm3/1000 strokes : +-2.0 Check tolerance cm3/1000s. 4.5 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance 9.0 cm3/1000s.

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 02,02,96 Edition : ISO 4113 Test oil

: 0 402 896 009 Combination No.

Injection pump

Pump designation : PE6P120A320RS8020

EP type number : 0 412 826 021

Governor

Governer design. : RE30

Governer no. : 0 421 890 010

: 479889-P03 V.08/95 Cust. part No.

Customer-spec. information

: VOLVO-TRUCK Customer

: TD123,TD103 E ES Motor

: 290.0 Power KW

#### TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C Tolerance °C : +- 2.0

: 2 417 413 078 Overflow valve

Inlet press. bar : 2.5

Tolerance bar 0.1

Test nozzle holde

assembly : 1 688 901 103

Opening pressure

208.5 bar : +- 1.5 Tolerance bar

Test lines : 1 680 750 008

Outside diameter : 6.0 x inside diameter: 2.0 x length mm : 600

#### REMARKS

Pump-specific values in Section (B) must be observed!

(A) INJECTION PUMP SETTINGS

No basic setting.

Setting of constant delivery

under Section C.

#### BEGINNING OF DELIVERY

Test pressure bar : 31.0 Tolerance bar : +-1.0

Prestroke mm : 4.05

4.00 Prestroke mm : : + 0.05Tolerance mm

Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Check

tolerance mm : + 0.10

Rack travel in mm : 10.50

Rack travel in mm : 10.50 Tolerance mm :  $\leftarrow$  0.50

Tolerance mm : +- 0.50

: 1-5- 3- 6- 2-Firing order

: 0-60-120-180-240 Phasing

: -300

Tolerance : +- 0.30

Check

: +- 0.75 tolerance °NW

Start of delivery mark

Barrel no. 1 :

(B) POSITIONER TESTING Warm-up time: 3 minutes at n=600 min-1, Uact = 2.5 V
TESTING & SETTING RACK TRAVEL SENSOR POSITION
Engine speed min-1: 0
Setting point (P, R and H pump)
Uact V : 3.100 CRT mm : 13.00 Tolerance mm : +/- 0.05 Check
tolerance mm : +/- 0.10
Check value (P, R and H pump)
Uact V : 1.700 CRT mm : 6.15 Tolerance mm : +/- 0.25 Check tolerance mm : +/- 0.30
Setting point (M pump)
Uact V : 3.100 CRT mm : 12.50 Tolerance mm : +/- 0.05 Check tolerance mm : +/- 0.10
Check value (M pump)
Uact V : 1.700 CRT mm : 5.50 Tolerance mm : +/- 0.25 Check tolerance mm : +/- 0.30
Stop position
Uact V : Value with deenergised adjusting magnet and control rod in
stop position.  CRT mm : 0.75  Tolerance mm : +/- 0.25  Check

: +/- 0.35

ENGINE-SPEED SENSOR
(All P and R pumps not H and M pumps)
Test with control rod in stop position
Engine speed min-1:

Engine speed min-1: 60
Amplitude V : 1.4
Tolerance V : +/- 0.6
Check
tolerance V : +/- 1.20

Engine speed min-1: 600

Difference Amplitude to

Amplitude V : max.1.4

## (C) INJECTION PUMP WITH POSITIONER

## TEST POINT V1

Rated speed rpm 600 Uact V 2.800 Del. quantity cm3/1000 strokes : 302.0 Tolerance cm3/1000 strokes : +-1.0 Check tolerance cm3/1000s. 4.0 Spreed Tolerance 8.0 cm3/1000 strokes : Check tolerance cm3/1000s. 11.0

## FUEL DELIVERY CHARACTERISTICS

Rated speed rpm 950 Uact V 2.800 Del. quantity cm3/1000 strokes : 258.0 Tolerance cm3/1000 strokes : +-3.0 Check tolerance cm3/1000s. 6.0 Spreed Tolerance cm3/1000 strokes : 10.0 Check tolerance 14.0 cm3/1000s. 950 Rated speed rpm 2.200 Uact V Del. quantity cm3/1000 strokes : 183.0

tolerance mm

Tolerance cm3/1000 strokes : +-3.0 Check tolerance cm3/1000s. 6.0 TEST POINT L1

250 Rated speed rpm 1.400 Uact V Tolerance Volt : + 0.060Check tolerance : + 0.060Volt

Del. quantity cm3/1000 strokes : 22.0

Tolerance

cm3/1000 strokes : +-2.0

Spreed

Tolerance

cm3/1000 strokes : +-2.0

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 01.02.96 Test oil : ISO 4113

Combination No. : 0 403 244 047

Injection pump

Pump designation : PES4MW100/720RS1525

EP type number : 0 413 204 022

Governor

Governer design. : RQV300...1300MW132

: -13

Governer no. : 0 420 083 330

Cust. part No. : 0260746302

Customer—spec. information Customer : MB-NFZ Motor : 0M364LA Power KW : 103.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40 Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0 Tolerance bar : + 1.0

Prestroke mm : 4.55
Tolerance mm : + 0.05
Check

Rack travel in mm : 20.00 Tolerance mm : + 1.00

Firing order : 1-3-4-2

: + 0.10

Phasing : 0-90-180-270 Tolerance : +- 0.50

Check

tolerance °NW : +- 0.75

BASIC SETTING

tolerance mm

Rated speed rpm : 1300

Rack travel in mm : 13.30 Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 119.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s. : +- 4.0

Spreed Tolerance

cm3/1000 strokes :

5.0

Check tolerance cm3/1000s. : 8.0	+ Rated speed rpm : 1780
700	guide sleeve
Rated speed rpm : 300	+ travel mm : 13.50 + Tolerance mm : + 0.50
Rack travel in mm : 3.90	Tolerance mm : +- 0.50
Tolerance mm : + 0.20	
Del. quantity	GUIDE SLEEVE POSITION
cm3/1000 strokes : 12.0	+
Tolerance	Rated speed rpm : 1445
cm3/1000 strokes : + 2.0	Pools trought in many 40,00
Check tolerance : +- 4.5	+ Rack travel in mm : 10.00 + Tolerance mm : + 2.50
Spreed	Total differ that
Tolerance	
cm3/1000 strokes : 2.0	FULL LOAD DELIVERY AT FULL LOAD STOP
Check tolerance	+
cm3/1000s. : 4.0	Rated speed rpm : 1300
	Aneroid pressure hPa : 1200
(B) SETTING OF INJECTION PUMP	Del. quantity
WITH GOVERNOR	cm3/1000 strokes : 119.0
	Tolerance
ALIZA DI ALIZENIA DEL CONTROLLO	cm3/1000 strokes : + 1.0
GUIDE SLEEVE TRAVEL	+ Check tolerance + cm3/1000s. : +- 4.0
Rated speed rpm : 300	Spreed 4.8
guide steeve	Tolerance
travel mm : 0.91	cm3/1000 strokes : 5.0
Tolerance mm : +- 0.25	Check tolerance
	cm3/1000s. : 8.0
Rated speed rpm : 1354 - guide sleeve -	
travel mm : 7.15	
Tolerance mm : + 0.25	CONTROL LEVER
Rated speed rpm : 1130	control lever
guide sleeve - travel mm : 5.40 -	position degree : 113.0 tolerance degree : +- 4.0
Tolerance mm : + 0.25	toterance degree . 4.0
Total dipa limi	RATED SPEED
Rated speed rpm : 610 -	
guide sleeve -	rack travel mm : 12.30
travel mm : 2.96 - Tolerance mm : + 0.25 -	Rated speed rpm : 1345 Tolerance 1/min : +- 5
Tolerance mm : + 0.25	L loterance minit . += 5
Rated speed rpm : 660 -	rack travel mm : 4.00
guide sleeve	Rated speed rpm : 1475
travel mm : 3.31	Tolerance 1/min : + 15
Tolerance mm : + 0.25	made through an an an an an an an an an an an an an
Rated speed rpm : 780	rack travel mm : 0.50 Tolerance mm : + 0.50
Rated speed rpm : 780 - guide sleeve -	Rated speed rpm : 1550
travel mm : 3.72	
Tolerance mm : + 0.25	-
4/70	LOUITOUR
Rated speed rpm : 1679	- LOW IDLE
guide sleeve - travel mm : 12.00 -	
Tolerance mm : + 0.25	-
	,

		1 Chook
control lever position degree	: 74.0	+ Check + speed 1/min :> 80 + Check
tolerance degree	: +- 4.0	speed 1/min : < 220
Testing:		FUEL DELIVERY CHARACTERISTICS
Rated speed rpm	: 300	+
rack travel mm	: 3.90	+ Aneroid pressure
Tolerance mm	: +- 0.10	+ hPa : 1200
<b>6</b>	. 200	Rated speed rpm : 600
Rated speed rpm	: 200	t Del. quantity cm3/1000 strokes : 117.0
CRT mm min.	• > /4 50	Tolerance
CIVI dikir militis	. > 4.50	cm3/1000 strokes : +- 2.0
TORQUE CONTROL		+ cm3/1000s. : + 5.0
·		Spreed
Rated speed rpm	: 1300	+ Tolerance
rack travel mm Tolerance mm	: 13.30	+ cm3/1000 strokes : 6.0
Tolerance mm	: +- 0.05	+ Check tolerance
	4 40 40	+ cm3/1000s. : 9.0
Rated speed rpm	: 600	• • • • • • • • • • • • • • • • • • • •
rack travel mm	: 13.30 : +- 0.10	+ Aneroid pressure + hPa : -
Tolerance mm	: +- 0.70	Rated speed rpm : 500
ANEROID/ALTITUDE		+ cm3/1000 strokes : 50.0
COMPENSATOR TEST		+ Tolerance
		+ cm3/1000 strokes : + 1.0
		+ Check tolerance
SETTING		+ cm3/1000s. : + 3.0
		†
Rated speed rpm Pressure hPa rack travel mm	: 500	PAR ALAMAN
Pressure nPa	1200	BREAKAWAY
Tolerance mm	13.30	Ī
rocerance um	. +- 0.05	Rack travel in mm: 12.30
MEASUREMENT		Rated speed rpm : 1345
. 16. 10 01/41/12/17		Tolerance 1/min : +- 5
Pressure hPa	: -	+
Rated speed rpm		+
Tolerance mm	: +- 0.10	
	<b>FAA</b>	+ STARTING FUEL DELIVERY
Rated speed rpm	: 500	Dated aread pro . 100
Procesure han	: 750	+ Rated speed rpm : 100 + Del. quantity
Pressure hPa rack travel mm	: 750	+ cm3/1000 strokes : 150.0
Tolerance mm	: +- 0.10	Tolerance
,	, ,,,,,	cm3/1000 strokes : +- 5.0
Pressure hPa	: 350	+ Check tolerance
rack travel mm	: 1.20	+ cm3/1000s. : +- 8.0
Tolerance mm	: +- 0.10	+
		+
ATT A		<del></del> †
START CUT-OUT		LOW TOLE
Dated cased an-	: > 100	LOW IDLE
Rated speed rpm Rated speed rpm		Rated speed rpm : 300
varen sheen i hiii	, \ 200	rack travel mm : 3.90
		1 TAUN CLATCE DIE 1 0170

Tolerance mm	: +-	0.20
Del. quantity cm3/1000 strokes	:	12.0
Tolerance cm3/1000 strokes Check tolerance	: +-	2.0
cm3/1000s. Spreed	: +-	4.5
Tolerance cm3/1000 strokes Check tolerance	:	2.0
cm3/1000s.	:	4.0

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 06.02.96 Edition Test oil : ISO 4113

Combination No. : 0 403 444 142

Injection pump

Pump designation : PES4MW100/720RS1212

EP type number : 0 413 404 114

Governor

Governer design. : RQV300...1300MW50

: -15

Governer no. : 0 420 083 238

Cust. part No. :

Customer-spec. information Customer : MB-NFZ Motor : 0M364LA Power KW : 102.0

# TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

40 temp. °C Tolerance °C 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

208.5 : +- 1.5 Tolerance bar

Test lines : 1 680 750 089

Outside diameter : 8.0 x inside diameter: 3.0 x length mm : 600

#### REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

# BEGINNING OF DELIVERY

Test pressure bar: 31.0 Tolerance bar : ← 1.0

Prestroke mm 3.75 Tolerance mm : +- 0.05 Check

tolerance mm : + 0.10

Rack travel in mm: 10.50 Tolerance mm : +- 1.50

Firing order : 1-3-4-2

: 0-90-180-270 Phasing

Tolerance : + - 0.50

Check

tolerance °NW : + 0.75

### BASIC SETTING

1300 Rated speed rpm :

Rack travel in mm : 13.25 Tolerance mm :  $\leftarrow$  0.05

Del. guantity

cm3/1000 strokes : 102.0

Tolerance

cm3/1000 strokes : + 1.0

Check tolerance

cm3/1000s. : +-3.0

Spreed

Tolerance

cm3/1000 strokes : 3.5

M20

Check tolerance	+
cm3/1000s. : 6.0	GUIDE SLEEVE POSITION
Rated speed rpm : 300	Rated speed rpm : 1440
Rack travel in mm : 6.50 Tolerance mm : + 0.20	Rack travel in mm: 10.00
Del. quantity cm3/1000 strokes : 12.0 Tolerance	Tolerance mm : + 2.70
cm3/1000 strokes : +- 2.0 Check tolerance	FULL LOAD DELIVERY AT FULL LOAD STOP
cm3/1000s. : +- 4.5 Spreed	Rated speed rpm : 1300 Aneroid pressure
Tolerance cm3/1000 strokes : 3.5	hPa : 700 Del. quantity
Check tolerance cm3/1000s. 5.5	+ cm3/1000 strokes : 102.0 + Tolerance
(B) SETTING OF INJECTION PUMP	cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 3.0
WITH GOVERNOR	+ Spreed + Tolerance
GUIDE SLEEVE TRAVEL	+ cm3/1000 strokes : 3.5 + Check tolerance + cm3/1000s. : 6.0
Rated speed rpm : 300 guide sleeve	- CHD/10003 6.0
travel mm : 1.40 Tolerance mm : +- 0.25	CONTROL LEVER
Rated speed rpm : 1355 guide sleeve	t + control lever + position degree : 113.0
travel mm : 8.65 Tolerance mm : + 0.25	tolerance degree : + 4.0
Rated speed rpm : 885	+ RATED SPEED + - + rack travel mm : 12.20
guide sleeve travel mm : 5.01 Tolerance mm : + 0.25	Rated speed rpm : 1345  Tolerance 1/min : + 5
Rated speed rpm : 355	rack travel mm : 4.00
guide sleeve travel mm : 1.96	Rated speed rpm : 1465 Tolerance 1/min : + 15
Tolerance mm : + 0.25  Rated speed rpm : 405	rack travel mm : 0.50 Tolerance mm : + 0.50
Rated speed rpm : 405 guide sleeve travel mm : 2.33	Rated speed rpm : 1550
Tolerance mm : + 0.25	
Rated speed rpm : 500 guide sleeve	LOW IDLE
travel mm : 2.92 Tolerance mm : + 0.25	control lever position degree : 79.0
Rated speed rpm : 1610 - guide sleeve	tolerance degree : + 4.0
travel mm : 11.50 - Tolerance mm : + 0.50	Testing:

Rated speed rpm	: 300	†
rack travel mm Tolerance mm	: 6.50 : + 0.10	FUEL DELIVERY CHARACTERISTICS
Rated speed rpm	: 200	Aneroid pressure hPa : 700
CRT mm min.	: > 8.00	Rated speed rpm : 600  Del. quantity
TORQUE CONTROL		
Rated speed rpm	: 1300	cm3/1000 strokes : +- 1.5 + Check tolerance
rack travel mm Tolerance mm	: 13.25 : + 0.05	cm3/1000s. : +- 4.0 Spreed Tolerance
Rated speed rpm rack travel mm	: 600 : 13.25	cm3/1000 strokes : 5.0 Check tolerance
Tolerance mm	: + 0.10	cm3/1000s. : 7.0
ANEROID/ALTITUDE		Aneroid pressure
COMPENSATOR TEST		Rated speed rpm : 500 Del. quantity
SETTING		cm3/1000 strokes : 36.0
	: 500	cm3/1000 strokes : + 1.0 Check tolerance
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 700 : 13.25	cm3/1000s. : + 3.0
MEASUREMENT	0.03	BREAKAWAY
Pressure hPa Rated speed rpm rack travel mm Tolerance mm	: - : 500 : 10.15 : + 0.05	Rack travel in mm: 12.20 Rated speed rpm: 1345 Tolerance 1/min: + 5
Rated speed rpm	: 500	T
Pressure hPa rack travel mm Tolerance mm	: 400 : 12.70 : ← 0.10	Rated speed rpm : 100 Del. quantity
Pressure hPa rack travel mm	: 200 : 11.00	+ cm3/1000 strokes : 90.0 + Tolerance + cm3/1000 strokes : +- 5.0
Tolerance mm	: + 0.10	Check tolerance cm3/1000s. : + 8.0
START CUT-OUT		
Rated speed rpm Rated speed rpm	: > 100 : < 200	LOW IDLE
Check speed 1/min Check	: > 80	Rated speed rpm : 300 rack travel mm : 6.50 Tolerance mm : + 0.20
speed 1/min	: < 230	Del. quantity cm3/1000 strokes: 12.0

Tolerance cm3/1000 strokes	: +-	2.0
Check tolerance cm3/1000s.	; +-	4.5
Spreed Tolerance		
cm3/1000 strokes Check tolerance	:	3.5
cm3/1000s.	:	5.5

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 02.02.96 Test oil : ISO 4113

Combination No. : 0 403 456 118A

Injection pump

Pump designation : PES6MW100/321RS1201

EP type number : 0 413 406 190

Governor

Governer design. : RQV250...1200MW83-3

Governer no. : 0 420 083 280

Cust. part No. : 3-7530

Customer-spec. information

Customer : MAN

Motor : D 0826 LOH 12

Power KW : 140.0

### TEST BENCH REQUIREMENTS

Test oil inlet

temp. °C : 40 Tolerance °C : +- 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly : 0 681 343 009

Opening pressure

bar : 173.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0

x Length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0

Tolerance bar : + 1.0

Prestroke mm : 3.55
Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm: 10.50

Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance :  $\leftarrow$  0.50

Check

tolerance °NW : + 0.75

Start of delivery mark

Barrel no. : '

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm: 11.00

Tolerance mm :  $\leftarrow$  0.05

Del. quantity

cm3/1000 strokes : 110.0

Tolerance

cm3/1000 strokes : + 1.0

Check tolerance

cm3/1000s.

: +- 3.0

Spreed

Tolerance + cm3/1000 strokes : 3.5	Tolerance mm : +- 2.50
Check tolerance cm3/1000s. : 6.0	FULL LOAD DELIVERY AT FULL LOAD STOP
Rated speed rpm : 250	Rated speed rpm : 700 Aneroid pressure hPa : 800
Rack travel in mm: 5.50 Tolerance mm: + 0.20	Del. quantity cm3/1000 strokes : 110.0
Del. quantity cm3/1000 strokes : 18.0 + Tolerance +	Tolerance cm3/1000 strokes : +- 1.0 Check tolerance
cm3/1000 strokes : + 2.0	cm3/1000s. : + 3.0 Spreed
cm3/1000s. : + 4.5 Spreed +	Tolerance cm3/1000 strokes : 3.5
Tolerance cm3/1000 strokes : 3.5 Check tolerance	Check tolerance cm3/1000s. : 6.0
cm3/1000s. : 5.5	
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	control Lever position degree : 299.0
GUIDE SLEEVE TRAVEL	tolerance degree : +- 4.0
Rated speed rpm : 250	RATED SPEED rack travel mm : 9.85
guide sleeve travel mm : 1.11 Tolerance mm : + 0.20	rack travel mm : 9.85 Rated speed rpm : 1253 Tolerance 1/min : +- 8
Rated speed rpm : 1261 guide sleeve	rack travel mm : 4.00 Rated speed rpm : 1330
travel mm : 10.59 Tolerance mm : + 0.15	Tolerance 1/min : + 15  rack travel mm : 0.50
Rated speed rpm : 812 guide sleeve travel mm : 5.87	Tolerance mm : +- 0.50 Rated speed rpm : 1400
Tolerance mm : + 0.25	
Rated speed rpm : 450 guide sleeve	LOW IDLE
travel mm : 3.22 Tolerance mm : + 0.25	control lever position degree : 253.0
Rated speed rpm : 1460 guide sleeve	tolerance degree : +- 4.0
travel mm : 13.50 Tolerance mm : + 0.50	Testing: Rated speed rpm : 250
GUIDE SLEEVE POSITION	rack travel mm : 5.50 Tolerance mm : + 0.10
Rated speed rpm : 1370	Rated speed rpm : 100
Rack travel in mm: 10.00	CRT mm min. : > 6.00

		<del>†</del>
TORQUE CONTROL		+ Aneroid pressure + hPa : 800 + Rated speed rpm : 1000
Rated speed rpm rack travel mm	: 700 : 11.00	<pre>Del. quantity     cm3/1000 strokes : 118.0</pre>
Tolerance mm		Tolerance + cm3/1000 strokes : +- 1.5
Rated speed rpm	: 1200 · 10.85	- Check tolerance - cm3/1000s. : +- 4.0
rack travel mm Tolerance mm	: +- 0.10	+
Rated speed rpm	: 1000	+ Aneroid pressure + hPa : -
rack travel mm Tolerance mm	: 10.90 : +- 0.10	Rated speed rpm : 500 Del. quantity
		+ cm3/1000 strokes : 75.0 + Tolerance
ANEROID/ALTITUDE COMPENSATOR TEST		cm3/1000 strokes : + 1.0 Check tolerance
COMPENSATOR TEST		cm3/1000s. :+ 3.0
SETTING		BREAKAWAY
Rated speed rpm	: 500 : 800	- ONLANAMAT
Pressure hPa rack travel mm Tolerance mm	: 11.00	Rack travel in mm: 9.85
Tolerance mm	: <del></del> 0.05	+ Rated speed rpm : 1253 + Tolerance 1/min : + 8
MEASUREMENT		
Pressure hPa Rated speed rpm	: - : 500	STARTING FUEL DELIVERY
rack travel mm	: 10.05	+
Tolerance mm		+ Rated speed rpm : 100 + Del. quantity
Rated speed rpm	: 500	+ cm3/1000 strokes : 70.0 + Tolerance
Pressure hPa rack travel mm	: 150 : 10.35	cm3/1000 strokes : +- 10.0 Check tolerance
Tolerance mm	: + 0.15	cm3/1000s. : +- 13.0
		<del>+</del>
FUEL DELIVERY CHA	ARACTERISTICS	LOW IDLE
Aneroid pressure	. 200	Rated speed rpm : 250
hPa Rated speed rpm	: 800 : 1200	rack travel mm : 5.50 Tolerance mm : + 0.20
Del. quantity cm3/1000 strokes	: 117.0	+ Del. quantity + cm3/1000 strokes : 18.0
Tolerance cm3/1000 strokes		Tolerance + cm3/1000 strokes : + 2.0
Check tolerance		+ Check tolerance
cm3/1000s. Spreed	: +- 4.0	+ cm3/1000s. : + 4.5 - Spreed
Tolerance cm3/1000 strokes	: 5.0	+ Tolerance + cm3/1000 strokes : 3.5
Check tolerance cm3/1000s.	: 7.0	Check tolerance cm3/1000s. : 5.5

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 05.02.96 Test oil : ISO 4113

Combination No. : 0 403 476 120

Injection pump

Pump designation : PES6MW100/720RS1131

: -1

: 0 413 406 165 EP type number

Governor

Governer design. : RSV350...750MWOA336

: -6

: 0 420 085 198 Governer no.

Cust. part No. :

Customer-spec. information Customer : MB-NFZ : OM 366 LA Motor Power KW : 87.0

### TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C Tolerance °C 2.0

: 1 419 992 198 Overflow valve

Inlet press. bar : 1.5

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

: 208.5 bar Tolerance bar

Test Lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 600

### **REMARKS**

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

# BEGINNING OF DELIVERY

Test pressure bar : 31.0 Tolerance bar : + 1.0

Prestroke mm : 3.65 : +- 0.05 Tolerance mm Check

: ← 0.10 tolerance mm

Rack travel in mm: 10.50 Tolerance mm : +- 1.50

: 1-5-3-6-2-Firing order

: 0-60-120-180-240 Phasing

: -300

Tolerance : + - 0.50

Check

tolerance °NW : + - 0.75

### BASIC SETTING

700 Rated speed rpm :

Rack travel in mm : 12.55

: + 0.05Tolerance mm

Del. quantity

cm3/1000 strokes : 88.0

Tolerance

cm3/1000 strokes : + 1.0

Check tolerance cm3/1000s.

: +- 3.0

Spreed

Tolerance	<b>_</b>		
cm3/1000 strokes : 3.5	control lever		
F	position degree : 77.0		
Check tolerance cm3/1000s. : 6.0	tolerance degree : +- 4.0		
	RATED SPEED		
Rated speed rpm : 350	+		
Deals Americal dia anno a F 90	rack travel mm : 1.00		
Rack travel in mm: 5.80 Tolerance mm: + 0.70	+ Tolerance mm : +- 0.70 + Rated speed rpm : 850		
Del. quantity	Tracea opeca (piii 1 050		
cm3/1000 strokes : 11.0	ASSEMBLY GOVERNOR SETTING		
Tolerance - cm3/1000 strokes : + 2.0	† Rated speed rpm : 750		
Check tolerance	rack travel mm : 11.50		
cm3/1000s. : + 4.5	1		
Spreed	Rated speed rpm : 779		
Tolerance - cm3/1000 strokes : 3.5 -	+ Tolerance 1/min : +- 4 + rack travel mm : 4.00		
Check tolerance			
cm3/1000s. : 5.5	Rated speed rpm : 751		
•	rack travel mm : 11.50		
(B) SETTING OF INJECTION PUMP	Rated speed rpm : 780		
WITH GOVERNOR -	Tolerance 1/min : +- 4		
-	rack travel mm : 4.00		
	Rated speed rpm : 752		
GUIDE SLEEVE POSITION -	rack travel mm : 11.50		
	+		
Rated speed rpm : 800 -	+ Rated speed rpm : 781 + Tolerance 1/min : +- 4		
Rack travel in mm : 0.65	rack travel mm : 4.00		
Tolerance mm : + 0.35	1		
	Rated speed rpm : 753		
governor spring pre-tension	rack travel mm : 11.50		
click setting $x$ : 2.80	Rated speed rpm : 782		
-	Tolerance 1/min : + 4		
FULL LOAD DELIVERY AT FULL LOAD STOP	rack travel mm : 4.00		
FOLL LOAD DELIVERY AT FOLL LOAD STOP	Rated speed rpm : 754		
Rated speed rpm : 700	rack travel mm : 11.50		
Aneroid pressure	Patrick and a second a second and	hPa : Del. quantity -	Rated speed rpm : 783 Tolerance 1/min : + 4
cm3/1000 strokes : 88.0	rack travel mm : 4.00		
Tolerance	_		
cm3/1000 strokes : + 1.0	Rated speed rpm : 755		
Check tolerance cm3/1000s. : +- 3.0	rack thevel mm : 11.50		
Spreed	Rated speed rpm : 784		
Tolerance	Tolerance 1/min : +- 4		
cm3/1000 strokes : 3.5	- rack _i travel mm : 4.00		
Check tolerance cm3/1000s. : 6.0			
	- LOW IDLE		
<del>1</del>	-		

CONTROL LEVER

control lever
position degree : 67.0
tolerance degree : + 2.0

Testing:

Rated speed rpm : 350
rack travel mm : 5.80
Tolerance mm : + 0.50

rack travel mm : 2.00
Rated speed rpm : 400
Tolerance 1/min : + 30

Rated speed rpm : 100

CRT mm min. : > 19.00

TORQUE CONTROL

Rated speed rpm : 700 rack travel mm : 12.55 Tolerance mm : + 0.05

STARTING FUEL DELIVERY

Rated speed rpm : 100 Del. quantity

cm3/1000 strokes : 93.0

Tolerance

cm3/1000 strokes : + 5.0
Check tolerance
cm3/1000s. : + 8.0

LOW IDLE

Rated speed rpm 35Q 5.80 rack travel mm : +- 0.70 Tolerance mm Del. quantity cm3/1000 strokes : 11.0 Tolerance cm3/1000 strokes : +-2.0 Check tolerance cm3/1000s. 4.5 Spreed

Spreed Tolerance

cm3/1000 strokes : 3.5

Check tolerance

cm3/1000s. : 5.5

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 20.11.95 : ISO 4113 Test oil

Combination No. : 0 403 466 166

Injection pump

Pump designation : PES6MW100/120RS1241

EP type number : 0 413 406 240

Governor

Governer design. : RSV450...1250MW0A384

Governer no. : 0 420 085 267

Cust. part No. : 3929163

Customer-spec. information Customer : CDC : 6 CT Motor : 160.0 Power KW

#### TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C Tolerance °C 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 2.0 : +- 0.1 Tolerance bar

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

208.5 bar : + 1.5 Tolerance bar

Test Lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0 x length mm :

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant. per values _____

# BEGINNING OF DELIVERY

Test pressure bar: 17.0 Tolerance bar : + 1.0

: 1-5-3-6-2-Firing order

: 0-60-120-180-240 Phasing

: -300

Tolerance : +- 0.50

Check

tolerance °NW : + 0.75

Start of delivery blocking

*NW after s.o.d. : 8.25

Tolerance : +- 0.50

Check

tolerance °NW : +- 0.75

Barrel no. : 1

Beginning of delivery differende

and maximum rack

travel 15.00 Difference ° CS : 1.50

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm: 12.25 Tolerance mm : + 0.05

Del. quantity

142.5 cm3/1000 strokes :

Tolerance cm3/1000 strokes : + 1.0	CONTROL LEUED
Check tolerance cm3/1000s. : + 4.0	control lever  position degree : 92.5
Spreed Tolerance cm3/1000 strokes : 4.0	tolerance degree : +- 4.0  RATED SPEED
Check tolerance	rack travel mm : 11.20
cm3/1000s. : 7.5	Rated speed rpm : 1315 Tolerance 1/min : +- 5
cm3/1000 strokes : 14.0 +	rack travel mm : 6.60 Rated speed rpm : 1390
cm3/1000 strokes : + 2.0 Check tolerance cm3/1000s. : + 4.5	Tolerance 1/min : + 5 rack travel mm : 1.00
Spreed Tolerance	Tolerance mm : +- 0.70 Rated speed rpm : 1495
<pre>cm3/1000 strokes : 3.5 Check tolerance cm3/1000s. : 5.5</pre>	
T - T	LOW IDLE
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	control lever position degree : 74.0 tolerance degree : +- 4.0
GUIDE SLEEVE POSITION	Setting point w/out bumper spring
Rated speed rpm : 800	Rated speed rpm : 450 rack travel mm : 4.60
Rack travel in mm: 0.50 Tolerance mm: + 0.20	Testing:
governor spring +	Rated speed rpm : 450
pre-tension + click setting x : 3.25 +	rack travel mm : 5.10 Tolerance mm : + 0.10
FULL LOAD DELIVERY AT FULL LOAD STOP	Rated speed rpm : 100
Rated speed rpm : 1250	CRT mm min. : > 19.00
Aneroid pressure + hPa : 1200 +	TORQUE CONTROL
Del. quantity + cm3/1000 strokes : 142.5 +	Rated speed rpm : 1250
Tolerance +	rack travel mm : 12.25
cm3/1000 strokes : + 1.0 + Check tolerance	Tolerance mm : +- 0.05
cm3/1000s. : +- 4.0 +- Spreed +- Tolerance +-	ANEROID/ALTITUDE COMPENSATOR TEST
cm3/1000 strokes : 4.0	CO. II ENOMICAL TECT
Chack to language	
Check tolerance cm3/1000s. : 7.5	SETTING

Rated speed rpm : 500 Pressure hPa : 1200

### **MEASUREMENT**

Pressure hPa : Rated speed rpm : 500
rack travel mm : 10.20
Tolerance mm : + 0.20

Rated speed rpm : 500

Pressure hPa : 800 rack travel mm : 11.50 Tolerance mm : + 0.20

Pressure hPa : 600 rack travel mm : 10.60 Tolerance mm : + 0.25

### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa : Rated speed rpm : 500
Del. quantity

cm3/1000 strokes : 114.5

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s. :  $\leftarrow$  3.0

### BREAKAWAY

Rack travel in mm : 11.20
Rated speed rpm : 1315
Tolerance 1/min : +- 5

### STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : + 1.00
Del. quantity

cm3/1000 strokes : 171.5

Tolerance

cm3/1000 strokes :  $\leftarrow$  10.0

Check tolerance

cm3/1000s. :  $\leftarrow$  13.0

# LOW IDLE

Del. quantity cm3/1000 strokes : 14.0 Tolerance cm3/1000 strokes : +-2.0 Check tolerance cm3/1000s. 4.5 Spreed Tolerance cm3/1000 strokes : 3.5 Check tolerance cm3/1000s. 5.5

### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 06.02.96 Test oil : ISO 4113

Combination No. : 0 400 863 021

Injection pump

Pump designation : PES3A95D410/3RS2905

EP type number : 0 410 893 996

Governor

Governer design. : RSV325...900A1C859L

Governer no. : 0 420 232 622

Cust. part No. : 0423 1593 KY

Customer-spec. information

Customer : KHD-DMI
Motor : F3L912/913 NEU

Power KW : 40.5

### TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40 Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly : 0 681 343 009

Opening pressure

bar : 173.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 3.00
Tolerance mm : + 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50
Tolerance mm : + 1.50

Firing order : 1- 3- 2

Phasing : 0-120-240

BASIC SETTING

Del. quantity

cm3/1000 strokes : 80.0

Tolerance

cm3/1000 strokes : + 1.0

Check tolerance

cm3/1000s. : +- 3.0

Spreed

Tolerance

cm3/1000 strokes : 3.5

Check tolerance

cm3/1000s. : 8.0

Rated speed rpm : 325

Rack travel in mm : 9.50

Rack travel in mm : Del. quantity

cm3/1000 strokes : 21.0

Tolerance

cm3/1000 strokes : + 2.0

Check tolerance cm3/1000s. : + 4.5 Spreed Tolerance cm3/1000 strokes : 5.5 Check tolerance cm3/1000s. : 9.0  (B) SETTING OF INJECTION PUMP WITH GOVERNOR	rack travel mm : 0.85 Tolerance mm : +- 0.55 Rated speed rpm : 1090 rack travel mm : 4.00 Rated speed rpm : 940  LOW IDLE
GUIDE SLEEVE POSITION	control lever position degree : 67.0 tolerance degree : +- 4.0
Rated speed rpm : 800	-
Rack travel in mm: 0.50 Tolerance mm: + 0.20	Setting point w/out bumper spring  Rated speed rpm : 325  rack travel mm : 9.00
governor spring + pre-tension +	Testing:
click setting x : 2.00	Rated speed rpm : 325 rack travel mm : 9.50
FULL LOAD DELIVERY AT FULL LOAD STOP	Tolerance mm : + 0.10
Rated speed rpm : 890 Aneroid pressure hPa : -	rack travel mm : 2.00 Rated speed rpm : 430 Tolerance 1/min : + 30
Del. quantity cm3/1000 strokes : 80.0	Rated speed rpm : 100
Tolerance cm3/1000 strokes : + 1.0 + Check tolerance	CRT mm min. : > 19.50
cm3/1000s. : + 3.0 + Spreed	
Tolerance cm3/1000 strokes : 3.5	
Check tolerance + cm3/1000S. : 8.0 +	
‡	BREAKAWAY
CONTROL LEVER	Rack travel in mm : 10.80 Rated speed rpm : 898
control lever position degree : 89.0 tolerance degree : + 4.0	Tolerance 1/min : + 5
RATED SPEED	STARTING FUEL DELIVERY
rack travel mm : 10.80 Rated speed rpm : 898 Tolerance 1/min : +- 5	Rated speed rpm : 100 rack travel mm : 20.25 Tolerance mm : + 0.75 Del. quantity
rack travel mm : 4.00  Rated speed rpm : 915  Tolerance 1/min : + 10	cm3/1000 strokes : 123.0 Tolerance cm3/1000 strokes : +- 7.5

Check tolerance		
cm3/1000s.	; +-	10.0

# LOW IDLE

Rated speed rpm 325 9.50 rack travel mm Del. quantity cm3/1000 strokes : 21.0 Tolerance cm3/1000 strokes : +-2.0 Check tolerance cm3/1000s. 4.5 Spreed Tolerance cm3/1000 strokes : 5.5 Check tolerance 9.0 cm3/1000s.

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 06.02.96 : ISO 4113 Test oil

Combination No. : 0 400 866 222

Injection pump

Pump designation : PES6A95D410/3RS2907

EP type number : 0 410 896 884

Governor

Governer design. : RSV325...1250A5C858L

: 0 420 232 621 Governer no.

Cust, part No. : 0423 1601 KY

Customer-spec. information Customer : KHD-DMI

Motor : F6L912/913_NEU

Power KW : 81.0

#### TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C Tolerance °C 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

: 0 681 343 009 assembly

Opening pressure

173.5 bar Tolerance bar : + 1.5

: 1 680 750 014 Test lines

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

#### REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

# BEGINNING OF DELIVERY

Test pressure bar: 26.0 Tolerance bar : +- 1.0

Prestroke mm 3.00 : + 0.05Tolerance mm Check

tolerance mm : + - 0.10

Rack travel in mm: 10.50 : +- 1.50 Tolerance mm

Firing order : 1-5- 3- 6- 2-

Phasing : 0-60-120-180-240

: -300

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm: 11.35

: +- 0.05 Tolerance mm

Del. quantity cm3/1000 strokes :

76.0

Tolerance

cm3/1000 strokes : + 1.0

Check tolerance

cm3/1000s. : +-

Spreed

Tolerance

cm3/1000 strokes :

3.5

3.0

Check tolerance

cm3/1000s.

8.0

	+
Rated speed rpm : 325	RATED SPEED
Rack travel in mm: 9.50	rack travel mm : 10.35
Tolerance mm : + 0.10	Rated speed rpm : 1290
Del. quantity	+ Tolerance 1/min : +- 5
cm3/1000 strokes : 21.0	+
Tolerance	rack travel mm : 4.00
cm3/1000 strokes : +- 2.0	+ Rated speed rpm : 1330
Check tolerance cm3/1000s. : +- 4.5	Tolerance 1/min : +- 15
Spreed	rack travel mm : 0.85
Tolerance	+ Tolerance mm : + 0.55
cm3/1000 strokes : 5.5	+ Rated speed rpm : 1510
Check tolerance	+
cm3/1000s. : 9.0	+ rack travel mm : 4.00
	+ Rated speed rpm : 1360
(B) SETTING OF INJECTION PUMP	Ī
WITH GOVERNOR	
The first of the f	+ LOW IDLE
	+
CUIDE OF EDUE DOCUTION	
GUIDE SLEEVE POSITION	+ control lever + position degree : 67.0
Rated speed rpm : 800	tolerance degree : + 4.0
114 CC4 Opeca 1 piii	+
Rack travel in mm : 0.50	+ Setting point w/out bumper spring
Tolerance mm : + 0.20	+
dovonon onning	+ Rated speed rpm : 325 + rack travel mm : 9.00
governor spring pre-tension	track travel mm : 9.00
click setting x : 2.75	+ Testing:
	+
	+ Rated speed rpm : 325
FULL LOAD DELIVERY AT FULL LOAD STOP	+ rack travel mm : 9.50
Rated speed rpm : 1250	† Tolerance mm : + 0.10
Rated speed rpm : 125U Aneroid pressure	+ rack travel mm : 2.00
hPa : -	Rated speed rpm : 494
Del. quantity	+ Tolerance 1/min : + 30
cm3/1000 strokes : 76.0	+
Tolerance	+ Rated speed rpm : 100
cm3/1000 strokes : + 1.0	+ CRT mm min. : > 19.50
Check tolerance cm3/1000s. : +- 3.0	T CRI IIII III II
Spreed	
Tolerance	+ TORQUE CONTROL
cm3/1000 strokes : 3.5	+
Check tolerance	+ Rated speed rpm : 1250_
cm3/1000s. : 8.0	rack travel mm : 11.35
	Tolerance mm : + 0.05
	Rated speed rpm : 750
CONTROL LEVER	+ rack travel mm : 11.35
	+ Tolerance mm : +- 0.10
control lever	+
position degree : 100.0	†
tolerance degree : +- 4.0	Ī
·	T"

#### BREAKAWAY

Rack travel in mm : 10.35 Rated speed rpm : 1290 Tolerance 1/min : + 5

# STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.25
Tolerance mm : + 0.75
Del. quantity
cm3/1000 strokes : 123.0
Tolerance

cm3/1000 strokes : +- 7.5 Check tolerance

cm3/1000s. : +- 10.0

### LOW IDLE

Rated speed rpm 325 9.50 rack travel mm 0.10 Tolerance mm Del. quantity cm3/1000 strokes : 21.0 Tolerance cm3/1000 strokes : +-2.0 Check tolerance cm3/1000s. 4.5 Spreed Tolerance cm3/1000 strokes : 5.5 Check tolerance cm3/1000s. 9.0

### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 13.02.96 Test oil : ISO 4113

Combination No. : 0 400 866 223

Injection pump

Pump designation : (2ES6A95D41D/3RS29D7

EP type number : 0 410 896 884

Governor

Governer design. : RSV325...900A1C859L

Governer no. : 0 420 232 622

Cust. part No. : 0423 1602 KY

Customer-spec. information

Customer : KHD-DMI

Motor : F6L912/913_NEU

Power KW : 81.0

# TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp.  $^{\circ}$ C : 40 Tolerance  $^{\circ}$ C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly : 0 681 343 009

Opening pressure

bar : 173.5 Tolerance bar : +- 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

### REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

# BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 3.00
Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 10.50
Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

#### BASIC SETTING

Rated speed rpm : 890

Rack travel in mm : 11.80
Tolerance mm : + 0.05

Del. quantity cm3/1000 strokes : 80.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance cm3/1000s.

cm3/1000s. : +- 3.0

Spreed

Tolerance

cm3/1000 strokes :

3.5

Check tolerance

cm3/1000s. : 8.0

Rated speed rpm : 325	+ RATED SPEED
Rated speed (pill : 323	+ RATED SPEED
Rack travel in mm : 7.90 Tolerance mm : +- 0.10	+ rack travel mm : 10.80 + Rated speed rpm : 898
Tolerance mm : +- 0.10 Del. quantity	+ Rated speed rpm : 898 + Tolerance 1/min : + 5
cm3/1000 strokes : 11.5	+
Tolerance cm3/1000 strokes : +- 2.0	+ rack travel mm : 4.00 + Rated speed rpm : 921
Check tolerance	Tolerance 1/min : +- 10
cm3/1000s. : + 4.5	The state of the s
Spreed Tolerance	+ rack travel mm : 0.85 + Tolerance mm : +- 0.55
cm3/1000 strokes : 5.5	+ Rated speed rpm : 1090
Check tolerance cm3/1000s. : 9.0	+ rack travel mm : 4.00
. 7.0	Rated speed rpm : 938
(B) SETTING OF INJECTION PUMP	†
WITH GOVERNOR	
	LOW IDLE
	‡
GUIDE SLEEVE POSITION	control lever
Rated speed rpm : 800	position degree : 68.0 tolerance degree : + 4.0
rated speed (Mill : 000	toterance degree . + 4.0
Rack travel in mm: 0.50	Setting point w/out bumper spring
Tolerance mm : + 0.20	Rated speed rpm : 325
governor spring	rack travel mm : 7.40
pre-tension click setting x : 2.50	Testing:
otion secting x . Else	
FULL LOAD DELIVERY AT FULL LOAD STOP	+ Rated speed rpm : 325 - rack travel mm : 7.90
FOLE EOAD DELIVERY AT FOLE LOAD STOP	T rack travet limit . 1.70
Rated speed rpm : 890	rack travel mm : 2.00
Aneroid pressure	+ Rated speed rpm : 413 + Tolerance 1/min : + 30
Del. quantity	+
cm3/1000 strokes : 80.0 - Tolerance -	Rated speed rpm : 100
cm3/1000 strokes : +- 1.0	CRT mm min. : > 19.50
Check tolerance	<del> </del>
cm3/1000S. : + 3.0 - Spreed	TORQUE CONTROL
Tolerance -	+
cm3/1000 strokes : 3.5 - Check tolerance -	+ Rated speed rpm : 890 + rack travel mm : 11.80
cm3/1000s. : 8.0	Tolerance mm : + 0.05
•	<u>t</u>
	<del>T</del>
CONTROL LEVER	†
control lever	
position degree : 90.0	BREAKAWAY
tolerance degree : + 4.0	

Rack travel in mm : 10.80
Rated speed rpm : 898
Tolerance 1/min : + 5

# STARTING FUEL DELIVERY

100 Rated speed rpm rack travel mm : 20.25 : **←** 0.75 Tolerance mm Del. quantity

cm3/1000 strokes : 123.0

Tolerance

cm3/1000 strokes : + 7.5

Check tolerance

cm3/1000s. : +- 10.0

# LOW IDLE

Rated speed rpm : 325 7.90 rack travel mm : : + 0.10Tolerance mm Del. quantity cm3/1000 strokes : 11.5 Tolerance cm3/1000 strokes : + 2.0

Check tolerance

cm3/1000s. 4.5 Spreed

Tolerance

cm3/1000 strokes : 5.5

Check tolerance

9.0 cm3/1000s.

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 14.02.96 Edition Test oil : ISO 4113

Combination No. : 0 400 866 224

Injection pump

Pump designation: PES6A95D410/3RS2907 EP type number : 0 410 896 884

Governor

Governer design. : RSV325...1250A5C860L

Governer no. : 0 420 232 623

Cust. part No. : 0423 1812 KY

Customer-spec. information Customer : KHD-DMI

: F6L912/913 NEU Motor

Power KW : 89.0

# TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : + 2.0 Tolerance °C

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

: 0 681 343 009 assembly

Opening pressure

: 173.5 Tolerance bar

Test Lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0 x length mm : 600

### REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

# BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 3.00 : +- 0.05 Tolerance mm Check

: +- 0.10 tolerance mm

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 0-60-120-180-240 Phasing

: -300

# BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm: 11.35 Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 76.0

Tolerance

cm3/1000 strokes : + 1.0

Check tolerance

cm3/1000s. : +- 3.0

Spreed

Tolerance

cm3/1000 strokes : 3.5

Check tolerance

cm3/1000s. 8.0

Rated speed rpm :	: 325	+ RATED SPEED
Daal Assuul Assuu	. 0.00	+
Rack travel in mm :		+ rack travel mm :
	: +- 0.10	+ Rated speed rpm : + Tolerance 1/min :
Del. quantity cm3/1000 strokes :	: 11.5	Toterance min :
Tolerance	11.5	T rack travel mm :
	: +- 2.0	Rated speed rpm :
Check tolerance	2.0	Tolerance 1/min :
cm3/1000s. :	+ 4.5	Toterance minimi.
Spreed	413	rack travel mm :
Tolerance		Tolerance mm :
cm3/1000 strokes :	5.5	+ Rated speed rpm :
Check tolerance		+
cm3/1000s. :	9.0	+ rack travel mm :
		+ Rated speed rpm :
		+
(B) SETTING OF INJE	ECTION PUMP	<u> </u>
WITH GOVERNOR		
		+ LOW IDLE
		†
	AA1	+
GUIDE SLEEVE POSITI	LON	+ control lever
Data days and man	900	+ position degree :
Rated speed rpm :	800	tolerance degree :
Rack travel in mm :	0.50	Setting point w/out
Tolerance mm :	+- 0.20	the second point would
	3.23	Rated speed rpm :
governor spring		+ rack travel mm
pre-tension		1
click setting x :	3.00	+ Testing:
-		+
		+ Rated speed rpm :
FULL LOAD DELIVERY	AT FULL LOAD STOP	+ rack travel mm :
		+ Tolerance mm :
Rated speed rpm :	1250	†
Aneroid pressure		+ rack travel mm :
hPa :	_	+ Rated speed rpm :
Del. quantity	7/ 0	+ Tolerance 1/min :
cm3/1000 strokes :	76.0	T Retad speed non
Tolerance cm3/1000 strokes :	+ 1.0	Rated speed rpm :
Check tolerance	1.0	I CRT mm min. :
cm3/1000s. :	<b>←</b> 3.0	
Spreed	. 3.0	
Tolerance		TORQUE CONTROL
cm3/1000 strokes :	3.5	1
Check tolerance	<del>*</del>	Rated speed rpm :
cm3/1000s. :	8.0	+ rack travel mm :
•		+ Tolerance mm :
		+
		+
CONTROL LEVER		+
		†
control lever	102.0	†
position degree :		DDCALANA
tolerance degree :	<b>←</b> 4.0	+ BREAKAWAY
		<del></del>

10.35 1295 +- 5

4.00 1339 +- 15

0.85 + 0.55 1510

> 4.00 1360

68.0 + 4.0

bumper spring

325 7.70

325 8.20 +- 0.10

473← 30

100

> 19.50

1250 11.35 + 0.05

2.00

Rack travel in mm : 10.35
Rated speed rpm : 1295
Tolerance 1/min : +- 5

# STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 20.25 Tolerance mm : + 0.75

Del. quantity

cm3/1000 strokes : 130.0

Tolerance

cm3/1000 strokes : + 7.5

Check tolerance

cm3/1000s. : +- 10.0

# LOW IDLE

325 Rated speed rpm : 8.20 rack travel mm : Tolerance mm : + 0.10Del. quantity cm3/1000 strokes : 11.5 Tolerance cm3/1000 strokes : +-2.0 Check tolerance cm3/1000s. 4.5 Spreed Tolerance cm3/1000 strokes : 5.5 Check tolerance cm3/1000s. 9.0

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 14.02.96 Test oil : ISO 4113

Combination No. : 0 400 866 225

### Injection pump

Pump designation : PES6A95D410/3RS2907 EP type number : 0 410 896 884

### Governor

Governer design. : RSV325...1250A5C861L

Governer no. : 0 420 232 624

Cust. part No. : 0423 1813 KY

Customer-spec. information Customer : KHD-DMI

: F6L912/913_NEU Motor

Power KW : 89.0

### TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C 40 Tolerance °C 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

: 0 681 343 009 assembly

Opening pressure

: 173.5 Tolerance bar

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 600 x length mm :

# REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant. per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

: 3.00 Prestroke mm : +- 0.05 Tolerance mm

Check

: + 0.10 tolerance mm

Rack travel in mm: 10.50 Tolerance mm : + 1.50

: 1-5-3-6-2-Firing order

Phasing : 0-60-120-180-240

: -300

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm : 11.35
Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 76.0

Tolerance

cm3/1000 strokes : + 1.0

Check tolerance

cm3/1000s.: +- 3.0

Spreed Tolerance

cm3/1000 strokes : 3.5

Check tolerance

cm3/1000s. : 8.0

	•
Rated speed rpm : 325	RATED SPEED
Rack travel in mm: 8.20 Tolerance mm: + 0.10	rack travel mm : 10.35 Rated speed rpm : 1295
Del. quantity cm3/1000 strokes : 11.5	Tolerance 1/min : +- 5
Tolerance cm3/1000 strokes : +- 2.0 Check tolerance	rack travel mm : 4.00 Rated speed rpm : 1339 Tolerance 1/min : +- 15
cm3/1000s. : +- 4.5 Spreed	rack travel mm : 0.85
Tolerance cm3/1000 strokes : 5.5	Tolerance mm : +- 0.55 Rated speed rpm : 1510
Check tolerance cm3/1000S. : 9.0	rack travel mm : 4.00
	Rated speed rpm : 1360
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	<b>+</b>
	LOW IDLE
GUIDE SLEEVE POSITION	control lever
Rated speed rpm : 800	position degree : 68.0 tolerance degree : + 4.0
Rack travel in mm : 0.50 Tolerance mm : + 0.20	Setting point w/out bumper spring
governor spring	Rated speed rpm : 325 rack travel mm : 7.70
pre-tension	+
click setting x : 3.00	+ Testing:
FULL LOAD DELIVERY AT FULL LOAD STOP	Rated speed rpm : 325 rack travel mm : 8.20
Rated speed rpm : 1250	Tolerance mm : + 0.10
Aneroid pressure hPa : -	rack travel mm : 2.00 Rated speed rpm : 473
Del. quantity cm3/1000 strokes : 76.0	Tolerance 1/min : + 30
Tolerance cm3/1000 strokes : + 1.0	Rated speed rpm : 100
Check tolerance	CRT mm min. : > 19.50
Spreed	
Tolerance cm3/1000 strokes : 3.5	TORQUE CONTROL
Check tolerance cm3/1000s. : 8.0	Rated speed rpm : 1250 rack travel mm : 11.35 Tolerance mm : + 0.05
	‡
CONTROL LEVER	‡
control lever position degree : 102.0	<u> </u>
tolerance degree : +- 4.0	BREAKAWAY

Rack travel in mm : 10.35 Rated speed rpm : 1295 Tolerance 1/min : + 5

# STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 20.25 Tolerance mm : + 0.75

Del. quantity

cm3/1000 strokes : 130.0

Tolerance

cm3/1000 strokes : + 7.5

Check tolerance

cm3/1000s. : + 10.0

### LOW TOLE

Rated speed rpm 325 rack travel mm 8.20 : + 0.10Tolerance mm Del. quantity cm3/1000 strokes : 11.5 Tolerance cm3/1000 strokes : +-2.0 Check tolerance cm3/1000s. 4.5 Spreed Tolerance 5.5 cm3/1000 strokes : Check tolerance 9.0 cm3/1000s.

### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 31.01.96 Edition : ISO 4113 Test oil

Combination No. : 0 402 076 781

Injection pump

Pump designation : PES6P120A720RS3352 EP type number : 0 412 026 780

Governor

Governer design. : RSV650...1100P2A599

: 0 421 833 491 Governer no.

Cust. part No. : RE62646

Customer-spec. information : DEERE Customer Motor : 6081HZ003 Power KW : 170.0

### TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet

temp. °C Tolerance °C 2.0

Overflow valve : 1 457 413 010

Inlet press. bar : 2.0

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

208.5 har : +- 1.5 Tolerance bar

Test lines : 1 680 750 015

Outside diameter : 6.0 x inside diameter: 3.0 x length mm

### **REMARKS**

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

# BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : + 1.0

Prestroke mm 3.60 : + 0.05Tolerance mm Check

tolerance mm : + 0.10

Rack travel in mm : 10.50 Tolerance mm :  $\leftarrow$  1.50

: 1-5-3-6-2-Firing order

: 0-60-120-180-240 Phasing

: -300 : **←** 0.50

Tolerance

Check

tolerance *NW : **←** 0.75

Start of delivery mark

*NW after s.o.d. : 9.25 Tolerance : + - 0.50

Check

tolerance °NW : + - 0.75

: Barrel no. 1

Beginning of delivery differende

and maximum rack

travel 14.00 Difference ° CS : 2.50

BASIC SETTING

Rated speed rpm : 1100 +	Tolerance cm3/1000 strokes : +- 1.0
Rack travel in mm : 11.15 Tolerance mm : + 0.05	Check tolerance cm3/1000s. : +- 3.0 Spreed
Del. quantity cm3/1000 strokes : 126.0	Tolerance cm3/1000 strokes : 4.0 Check tolerance
Tolerance + 1.0 +	cm3/1000s. : 6.5
Check tolerance cm3/1000s. : + 3.0	CONTROL LEVER
+	control lever
Spreed + Tolerance + cm3/1000 strokes : 4.0 +	position degree : 97.0 tolerance degree : +- 4.0
Check tolerance	RATED SPEED
cm3/1000s. : 6.5	rack travel mm : 10.10 Rated speed rpm : 1160
Del. quantity + cm3/1000 strokes : 22.5 +	Tolerance 1/min : + 5
Tolerance	rack travel mm : 4.00
cm3/1000 strokes : + 3.0 + Check tolerance	Rated speed rpm : 1215 Tolerance 1/min : + 5
cm3/1000s. : + 5.0	
Spreed	rack travel mm : 0.85 Tolerance mm : +- 0.55
Tolerance + cm3/1000 strokes : 6.0 +	Tolerance mm : +- 0.55 Rated speed rpm : 1300
Check tolerance	
cm3/1000s. : 8.0	rack travel mm : 4.00 Rated speed rpm : 1215
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	
WITH GOVERNOR	LOW IDLE
CUID ROLL STUD DOCUTION	and and the same
GUIDE SLEEVE POSITION	control lever position degree : 80.0
Rated speed rpm : 800	tolerance degree : +- 4.0
Rack travel in mm: 0.50 Tolerance mm: +- 0.20	Setting point w/out bumper spring
governor spring pre-tension +	Rated speed rpm : 650 rack travel mm : 4.65
click setting x : 3.50	Testing:
	Rated speed rpm : 650
FULL LOAD DELIVERY AT FULL LOAD STOP	rack travel mm : 5.15 Tolerance mm : + 0.10
Rated speed rpm : 1100	
Aneroid pressure +	Rated speed rpm : 100
hPa : 1100 +	CRT mm min. :> 19.00
cm3/1000 strokes : 126.0	
+	

### TORQUE CONTROL

1100 Rated speed rpm 11.15 rack travel mm : + 0.05Tolerance mm

700 Rated speed rpm 12.25 rack travel mm : + 0.10Tolerance mm

### ANEROID/ALTITUDE COMPENSATOR TEST

### SETTING

Rated speed rpm 500 Pressure hPa 1100

# **MEASUREMENT**

Pressure hPa 500 Rated speed rpm 10.15 rack travel mm : +- 0.20 Tolerance mm

Rated speed rpm 500 :

670 Pressure hPa 11.70 rack travel mm : +- 0.20 Tolerance mm

390 Pressure hPa 10.70 rack travel mm : +- 0.05 Tolerance mm

# FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

1100 hPa Rated speed rpm 700 Del. quantity

cm3/1000 strokes : 153.5

Tolerance

2.0 cm3/1000 strokes : +-Check tolerance 4.0

cm3/1000s.

Aneroid pressure

hPa 500 Rated speed rpm

Del. quantity

cm3/1000 strokes : 103.0 Tolerance

cm3/1000 strokes : + 2.0

Check tolerance

cm3/1000s. 4.0 : +--

### BREAKAWAY

Rack travel in mm : 10.10 Rated speed rpm : 1160 Tolerance 1/min

### STARTING FUEL DELIVERY

Rated speed rpm 100 rack travel mm 20.50 Tolerance mm : +- 0.50 Del. quantity

cm3/1000 strokes : 105.0

Tolerance

cm3/1000 strokes : + 20.0

Check tolerance

cm3/1000s. : +- 25.0

### LOW IDLE

Del. quantity cm3/1000 strokes : 22.5 Tolerance cm3/1000 strokes : + 3.0 Check tolerance cm3/1000s. : +-5.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. 8.0

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil : 12.02.96 : ISO 4113

Combination No. : 0 402 736 845

Injection pump

Pump designation : PES6P120A120RS7286

EP type number : 0 412 726 894

Governor

Governer design. : RQV350...1100PA964

: -20K

Governer no.

: 0 421 815 352

Cust. part No. : 3922425

Customer-spec. information

: CDC Customer

Motor

Power KW

: 6CTA-A

: 224.0

# TEST BENCH REQUIREMENTS

Inlet line

: 3.2

Test oil inlet

temp. °C

Tolerance °C

40

2.0

Overflow valve : 2 417 413 086

Inlet press. bar :

2.0

Tolerance bar : + 0.1

Test nozzle holde assembly

: 1 688 901 103

Opening pressure

208.5

Tolerance bar

Test Lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter:

x length mm :

600

### REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

### BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : + 1.0

Firing order

: 1-5- 3- 6- 2-: 4

Phasing

: 0-60-120-180-240

: -300

Tolerance

: + 0.50

Check

tolerance "NW

: + - 0.75

Start of delivery blocking

°NW after s.o.d. : 6.25

: + 0.50

Tolerance Check

tolerance °NW

: + 0.75

Barrel no.

: 1

# BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm: 15.25

Tolerance mm

: +- 0.05

Del. quantity cm3/1000 strokes : 243.5

Tolerance

cm3/1000 strokes : + 1.0

Check tolerance

cm3/1000s.

4.0

Spreed Tolerance cm3/1000 strokes : 5.0	Testing:
Check tolerance cm3/1000s. : 9.0	Rated speed rpm : 350 rack travel mm : 6.60 Tolerance mm : + 0.20
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	Rated speed rpm : 275  CRT mm min. :> 7.80
FULL LOAD DELIVERY AT FULL LOAD STOP	Rated speed rpm : 425
Rated speed rpm : 1100	TORQUE CONTROL
Aneroid pressure hPa : 1200 Del. quantity	Rated speed rpm : 1100 rack travel mm : 15.25 Tolerance mm : +- 0.05
cm3/1000 strokes : 243.5 Tolerance cm3/1000 strokes : + 1.0 Check tolerance	Rated speed rpm : 650 rack travel mm : 13.40 Tolerance mm : +- 0.20
cm3/1000s. : + 4.0  Spreed  Tolerance  cm3/1000 strokes : 5.0	Rated speed rpm : 1200 rack travel mm : 14.70 Tolerance mm : +- 0.10
Check tolerance cm3/1000s. : 9.0	Rated speed rpm : 750 rack travel mm : 13.70 Tolerance mm : + 0.20
CONTROL LEVER	
control lever + 119.0 +	ANEROID/ALTITUDE COMPENSATOR TEST
tolerance degree : + 6.0	SETTING
RATED SPEED  rack travel mm : 13.60  Rated speed rpm : 1255  Tolerance 1/min : + 15	Rated speed rpm : 1100 Pressure hPa : 1200 rack travel mm : 15.25 Tolerance mm : + 0.05
rack travel mm : 4.00 + Rated speed rpm : 1400 +	MEASUREMENT
Tolerance 1/min : + 5  rack travel mm : 0.50	Pressure hPa : - Rated speed rpm : 1100 rack travel mm : 9.20
Tolerance mm : +- 0.50 Rated speed rpm : 1500	Tolerance mm : + 0.20
‡	Rated speed rpm : 1100
LOW IDLE	Pressure hPa : 715 rack travel mm : 13.50 Tolerance mm : + 0.20
control lever position degree : 71.0 tolerance degree : + 6.0	Pressure hPa : 335 rack travel mm : 10.60 Tolerance mm : + 0.05

START CUT-OUT 100 Rated speed rpm 290 Rated speed rpm Check speed 1/min : > 80 Check 300 speed 1/min : < FUEL DELIVERY CHARACTERISTICS Aneroid pressure 1200 hPa 750 Rated speed rpm Del. quantity 211.5 cm3/1000 strokes : Tolerance cm3/1000 strokes : +-3.0 Check tolerance cm3/1000s. 6.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. 12.0 Aneroid pressure hPa 500 Rated speed rpm Del. quantity cm3/1000 strokes : 80.0 Tolerance 2.0 cm3/1000 strokes : → Check tolerance cm3/1000s. 4.0 **BREAKAWAY** Rack travel in mm: 13.60 Rated speed rpm Tolerance 1/min STARTING FUEL DELIVERY Rated speed rpm 100 rack travel mm 11.50 : + 0.50Tolerance mm Del. quantity 180.0 cm3/1000 strokes : Tolerance cm3/1000 strokes : +- 20.0

Check tolerance cm3/1000s. : +- 25.0